Strengthening democracy in Africa with the Internet: A comparative study of South Africa, Kenya and Zambia.

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Executive Summary

For the first time since democracy in the classical Greek sense became practically impossible, the Internet's networking facilities are creating opportunities again for all citizens to be active, engaging participants in democracy. Open communication channels to government and fellow citizens can now be a reality that allows people at all levels of society to form part of a vibrant public sphere by exchanging ideas, sharing experiences, spreading ideologies and news, and comparing agendas. Additional developmental benefits are increasing as more and more people gain access to the Internet. For African countries dealing with unique and increasingly complicated issues regarding sustainable democratic systems, political corruption and human rights violations, this presents new solutions to a myriad of problems. The point of departure for this study is the argument that the Internet provides a platform from which citizens can now address these issues themselves and in doing so, contribute to a public sphere that strengthens the democratic fibre of the country.

The focus of this study is to find evidence-based information about the current influence of information and communication technology (ICT) usage in Africa, with specific focus on Internet usage through computers and mobile phones, in order to determine what the potential is for further utilisation of the Internet in the venture for consolidated democracy. The comparative study investigates the current status of Internet usage in South Africa, Kenya and Zambia, and explains why and how growing Internet access in these countries can contribute to modern, functioning democracies. Africa's unique challenges in this regard and the meaning of democracy within the African context are discussed within several theories of the impact of ICTs in developing communities. A thorough theoretical analysis of the topic is followed by a technical assessment about the current status of ICT infrastructure and usage in the sample countries. Specialists in the field were further interviewed to gain comprehensive information about potential utilisation of the Internet for democracy.

The challenge for African countries lies in increasing civil society's capacity and reach to use the public and private space, of which the Internet now forms an integral part, to engage with and influence their governments' decision-making and democratic practice. Findings suggest that this is a challenge that is surmountable with opportunities presented by new media as an application of the Internet. The lowering of connection costs, acquiring the necessary skills at grassroots levels and developing local digital content to motivate usage are part of the solution and have the potential to be the gateway to stable African democracies in the future.

1. Introduction

Africa has for years now been synonymous with instability. Since they gained independence in the 20th century, African countries have been characterised by a myriad of problems including political corruption and human rights violations. Political regimes have failed to give adequate attention to elite abuse, ethnic fears of majoritarian oppression and legitimate group demands for political and social rights. Ethnic minorities have as a result been largely excluded from political processes due to a lack of adequate communication channels.[1]

Ever developing information and communication technologies (ICTs), have in many ways redefined what we understand as effective citizenry and citizen participation, fundamental facets of a functioning democracy. Almost two billion Internet users worldwide with unlimited information at the push of a button now have alternative access points to the political realm. African citizens are, through the use of the Internet, retrieving some of the power over their own lives and possessions that many believe elected leaders have been wasting.[2] This extraordinary development however seems to have been lost in Africa's countless developmental and socio-political problems. Yet many continue to believe that the solution to Africa's problems lies precisely there: in the utilisation of the Internet to stimulate and improve democracy.

The potential the Internet has to strengthen democracy in Africa is increasingly becoming a topic of interest to scholars, politicians and investors alike. Yet the development of ICTs in Africa and the use thereof has been sub-optimal. The reasons for this include limited access and the high cost of communication largely due to a lack of competition in the private sector and will be discussed at length.

Literature on the potential impacts of the Internet, positive and negative, is extensive. The Internet is providing tools for stakeholder groups to press their interests and is creating new and more opportunities for collective bargaining. Collective bargaining does not imply unions and organised groups using the Internet as a facilitator in some formal bargaining process. Instead, new media, as an application of the Internet, make visible a layer of social process that is more fundamental than organisations and just as fundamental as institutions, namely, the customs by which people that have something in common think together. At the basis of collective bargaining, is collective cognition, and collective cognition in its various modes is greatly facilitated by the community-

[1] D. Rothchild (2000). "Ethnic bargain and state breakdown in Africa" in *Nationalism and Ethnic Politics* 1(1), pp.54-74.
[2] D. Ott & M. Rosser (1999). "The Electronic Republic? The Role of the Internet in Promoting Democracy in Africa" in *Democratization 7(1),* p.137.

building mechanisms of the Internet.[3] This creates the opportunity for people to form ideologies, spread news, compare agendas, exchange ideas and share experiences. The Internet enhances collective cognition and allows people to connect with others they associate with. [4]

What makes this development significant in an African context is that until recently, African democracies have lacked precisely a medium through which ordinary citizens can participate in and contribute to a culture of democracy. Effectively single party systems have in many cases condemned opposition to the party in power as treason and political opponents are often presented as "anti-people" or enemies of the nation and are severely punished and repressed.[5] The Internet provides a platform for communication and networking where traditional media have until now been limited.

The purpose of this study is to, as far as it is possible, calculate the potential the Internet has to stimulate and strengthen democracy in African states. Three countries have been identified to be investigated and were chosen specifically so as to obtain information about the broadest possible spectrum of instances where ICT infiltration and usage vary from very high to very low: South Africa, Kenya and Zambia. By definition, new ICTs are electronic networks linked by an array of technical protocols including Internet service provision, telecommunications equipment and services, information technology and media and broadcasting.[6] The focus of this study will be the Internet access and usage, both through computers and mobile phones as facilities that are, in turn, dependent on ICT equipment and services.

South Africa will be the first country to be investigated. Being Africa's strongest economy, communications access on the continent is dominated by South Africa. 15% of adults in South Africa access the Internet which makes it the highest ranking country in terms of Internet usage according to a recent study.[7] Evidence of the integration of Internet usage in the political culture in South Africa has shown that there is tremendous potential for other developing countries to follow suit. At the lower end Zambia was chosen to represent in the study countries that have very little Internet usage. While studies have shown 43.4% of Zambians know what the Internet is, only 3.3% of citizens make use of it.[8] The reasons for this and the potential for growth will be investigated in the following chapters. Lastly, Kenya was chosen as the third country in light of its government's increased efforts

[3] H. Jenkins & D. Thorburn (2004). *Democracy and New Media*, p.63.
[4] *Ibid.*
[5] S. Hameso (2002). "Issues and Dilemmas of Multi-Party Democracy in Africa" in *West Africa Review* 3(2), p.##
[6] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.12.
[7] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2), p.26.
[8] *Ibid*.

in the last decade to improve ICT access and skills. In 2006 Kenya launched an extensive programme to bring ICT access to all rural villages. The project is still ongoing and some success has been achieved. The government is also in the process of passing a new ICT Bill that would influence their ability to provide access to rural Kenyans tremendously. Internet usage in Kenya remains extremely limited, yet the country seems ripe with possibility for improvement.

The main research questions of this study are as follows. (a) What is the current status of Internet penetration in the three countries and what is the potential for growth in this sector? Limited ICT access in the African countries is however only the first obstacle citizens face. The second level of the problem is a lack of motivation and skill to constructively make use of the Internet. (b) What is the capacity and opportunity citizens have to successfully integrate ICTs into the accomplishment of self and mutually identified political goals? (c) How is the Internet currently utilised to stimulate a democratic culture in Africa? Enquiring into the use of new media technologies as applications and functions of the Internet will answer this question. (d) How will the improvement of Internet access and usage improve democracy in the sample countries? A theoretical framework of the topic and an investigation of the existing literature on the topic will be followed by a fact-based investigation and an educated assertion of the possibilities that exist for the Internet to stimulate and strengthen democracy in Africa.

2. Theoretical Framework

In this section, the researcher will address the theoretical aspects of how Internet usage may be related to the democratisation process in the sample of countries being studied.

There are a number of constructs that are proposed in this part of the study such as the close correlation between digital literacy and democratisation in optimising civil liberties in Africa. Another competency is the domestication of the Western model of media and democracy to fit the African socio-political and economic fabric. A third aspect is the careful observation of the transitional mechanism of African countries into democratisation as an integral part of imposed democracy after independence. The cornerstone for such development is the cultural expectations and readiness to materialise democratisation.

The theoretical overview offers an analysis of the main issues and theories that frame the use of the Internet for the development of democracy in the sample countries. A theoretical discussion of the ideal or goal that is democracy as well as a brief investigation into Africa's challenges in this regard is necessary to clarify what precisely the objective in terms of stimulation or enhancement of democracy is. An investigation into the role of media institutions in democratic systems as well as what theorists describe as the "digital divide" problem and the challenges this poses for Africa is included. This section concludes with a discussion of theories that describe and analyse the possibilities as well as effects of the use of the Internet on individuals and what this means for democratisation.

2.1. Democracy and Africa's Challenge

When the Berlin Wall fell in 1989 and Communism along with it, scholars claimed it was the end of history.[9] Democracy survived as the only eligible regime to take the world into the 21st century. Today this particular set of societal arrangements, structures, social values and practices takes a variety of forms in states all over the world where it stands for the equal worth of all human beings and includes certainties such as free and fair elections and equal votes for everyone. Democracy also importantly assumes freedom of information, expression and association for all people. This includes freedom of speech, a civil right that stands at the heart of all media institutions worldwide. Jack Balkin writes that the purpose of freedom of speech is to promote a democratic culture. He argues that democratic culture is more than representative institutions and deliberation about public issues. Rather, he writes, "a democratic culture is a culture in which individuals have a fair opportunity to participate in the forms of meaning making that constitute them as individuals.

[9] F. Fukayama (1989). "The End of History" in *The National Interest*, Summer 1989.

Democratic culture is about individual liberty as well as collective self-governance; it is about each individual's ability to participate in the production and distribution of culture."[10] A democratic culture is democratic in the sense that everyone, even those outside the political, economic, or cultural elite, has a fair chance to participate in the production of culture, and in the development of the ideas and meanings that constitute them and the communities and sub-communities to which they belong.

Time has since shown that the global advent of democracy did not signal the "end of history" and democratisation has proven to be a complicated, non-linear process. In 2010 Freedom House announced that 2009 was the fourth consecutive year in which global freedom suffered a decline. According to the annual survey of global political rights and civil liberties this marks the longest consecutive period of setbacks for freedom guaranteed by democracy in the nearly 40-year history of the report. The declines indicated by the Freedom in the World survey were most pronounced in sub-Saharan Africa.[11]

After years of colonial oppression, the early 1990's witnessed a dramatic return of multi-party democracy to Africa. Africa's successful integration into the global economic and political realm was off to an unsteady start, to the extent that in 1995 when all African states were categorised as democracies, most of them were theoretically considered to be highly centralised, authoritarian and either self-serving or serving political authorities, high-ranking military leaders or elite political groups.[12] During this time, the *New York Times* described Africa as follows: "Africa's share of world trade ... is now closer to 2 percent. That is so marginal it is almost as if the continent has curled up and disappeared from the map of international shipping lanes and airlines routes that rope together Europe, North America and the booming Far East."[13]

Many academics have since warned against adopting a concept like democracy and media from Western contexts and applying it blindly to Africa. In his essay "Theorizing the Media-Democracy Relationship in Southern Africa" Guy Berger posits that the main aim for advocates of freedom in Africa should be to acquire universally applicable concepts, "which are relevant and explanatory for

[10] J.M. Balkin. 2004. "Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society" in *New York University Law Review,* 79(1), p.3.
[11] Freedom House. 2010. *Freedom in the World 2010 Survey Release.*
[12] K. Mengisteab & C. Daddieh. "State Building and Democratisation in Africa. Faith, Hope and Realities" in *The Journal of Modern African Studies* 33(1), p.60.
[13] *Ibid*, p.57.

media and democracy in Africa, and which designate broad processes and functions rather than specific institutions like parliaments and the press".[14]

Berger continues that the functioning of democracy must be defined as the decision-making power of the majority, in which all participants have equal rights, emphasising Balkin's functional definition of democratic culture. Berger makes a clear distinction between broad democratic principles and structures and the processes by which people engage in decision-making. This allows for democracy to extend into the realm of the "private", such as the family and community, which in turn enables members of the "private" to meaningfully partake in an active democracy. According to Berger, this is particularly important in an African context where the cultural focus rests heavily on community and tradition.[15]

Africa's myriad of problems however cannot be regarded unusual in the light of its historical background. The continent's overwhelming diversity is an undeniable reality. In the 53 states that make up the continent, 800 million people trace their roots from over 2000 different ethnic groups with a multitude of unique languages. The dynamics of the slave trade and colonial rule further impacted severely negatively on Africa's development possibilities and arbitrarily carved boundaries during the colonial era disregarded social and natural divisions of geography and population settlement harnessed in many cases a profound national identity crisis and conflicts.[16]

The process of decolonisation failed in the re-formation of generally acceptable polities. Post-independence leaders had to move away from systems imposed by colonialism, while at the same time retaining certain aspects of it. The single party system was embraced as the only mode of rule political leaders was familiar with. Political plurality and ethnic diversity were furthermore demoted to a secondary priority to that of national unity and "nation-building". In the process vibrant social, political and economic institutions failed to develop.[17]

At present support for democracy in Africa by Africans remains surprisingly consistent. In a 2000 Afrobarometer survey of three sub-Saharan African countries, it was reported that respondents support democracy despite being far from content with its concrete achievements. According to the survey, this clearly suggests a measure of intrinsic support for democratic rule that supersedes

[14] G. Berger (2002). "Theorizing the Media-Democracy Relationship in Southern Africa" in *Gazette: The International Journal of Communication Studies* 64(21), p.30.
[15] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.20.
[16] S. Hameso (2002). "Issues and Dilemmas of Multi-Party Democracy in Africa" in *West Africa Review* 3(2), p.8.
[17] *Ibid*, p.9.

instrumental considerations. Another study showed that more than two out of three citizens (70 percent) across 12 African countries say that they prefer democracy to other forms of government.[18] However, the general public in African countries continues to think instrumentally and support for democracy continues to rely critically upon popular approval of governmental achievements. The continent's little previous experience with open elections and its previous sporadic democratic interludes have left an extremely fragile culture of democracy. Thus, regime consolidation remains "performance-driven" for the foreseeable future. As long as the regime of democracy is dependent on the effectiveness of weak and self-serving governments, then popular satisfaction – and, by extension, support for democracy – will remain tentative.[19] The widespread crisis of political legitimacy in Africa threatens to undo the democratic system, and with it, the ability to manage the problems and issues of a continent performing sub-optimally in basically all areas.[20]

The challenge for democracy in African countries, this study hypothesises, lies in increasing civil society's capacity and reach to use the public and private space to engage and influence their governments' decision-making and democratic practice. This entails both acting horizontally as citizens, with other civil society actors, as well as with governments.[21] Any discussion of civil society in an African context however, cannot ensue without taking note of the fact that organised and professional associations and pressure groups are for the most part non-existent. While civil society is generally defined as a "segment of society that interacts with the state, influences the state, and yet is distinct from the state"[22], this definition manifests itself where there are meaningful institutional separations between a well organised civil society and a relatively autonomous bureaucratic state. In Africa's case there is however constant overlapping and straddling of the one by the other.[23]

2.2. The Public Sphere

Any discussion of communication in a democratic system requires a review of public sphere theory and the next section is accordingly devoted. At the heart of Africa's problem lies a lack of active citizenship and the proper utilisation thereof. Roman Gerodimos identifies access to the decision-making process, citizens' engagement with the political process, deliberation and impact on public

[18] M. Bratton & R. Mattes. *Learning about Democracy in Africa: Awareness, Performance, and Experience*, p.5.
[19] *Ibid*, p.17.
[20] M. Castells (2005). "Global Governance and Global Politics" in *PS: Political Science & Politics*. January 2005.
[21] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.10.
[22] N. Chazan (1990). "Africa's democratic challenge: Strengthening civil society and the state" in *World Policy Journal* 9(2), p.283.
[23] S. Hameso (2002). "Issues and Dilemmas of Multi-Party Democracy in Africa" in *West Africa Review* 3(2), p.8.

policy as key aspects of democracy in action.[24] This can only be achieved in a system that allows for an active public sphere. Jürgen Habermas famously attempted to define the operations of the so-called "public sphere" in his essay *The Structural Transformation of the Public Sphere*. He described the public sphere as a space between the people and the state, in which citizens could debate issues of common interest to society. The public sphere was initially seen by Habermas as part of a more inclusive public comprising all private citizens who could participate in an independent way in a critical discussion as a result of being educated private owners. An important criterion of the public sphere was that it provided a shared common arena for all segments and citizens of society in which issues could be engaged.[25]

According to Habermas' Theory of Communicative Action (1981) and his speech-act theory culture-invariable validity claims such as truth, normative correctness and sincerity exists in all societies. Each of these claims represented an aspect of rationality. The aim of understanding is to arrive at an agreement and mutual trust. If that resolution is impossible, the level of discourse may allow for resolving doubtful claims by way of force of the better argument.[26] Public deliberation to Habermas fulfils three functions: to mobilise and pool relevant issues and required information and to specify interpretations; to process such contributions discursively by providing proper arguments pro and con; and to generate rational yes/no attitudes (2006:12). Habermas advocated a deliberative model of democracy where the emphasis is on the function of discourse. The deliberative model's key empirical point of reference is the democratic process. Important in this regard are three things: publicity for and transparency in the deliberative process; inclusion and equal opportunity for participation; and a justified presumption for reasonable outcomes (2006:4). These three aspects, according to Habermas, constitute the core of democracy. The presumption of reasonable outcomes rests on the assumption that institutionalised discourses assemble topics, promote critical evaluation, and systematically lead to a rational yes/no situation. Habermas refers to this as the "truth-tracking potential of political deliberation". Given the consistent tension between state and civil society, both the government and for instance voters, can take a yes or no position on public opinion. The trademark of the public sphere is precisely its reflexivity and openness to deliberation.

Habermas's work has been widely critiqued by many theorists who argue, among other things, that his approach to the concept of the public sphere is too normative and that a single unitary space for discussion is either deceptive or not advisable. Cowling and Hamilton however point out that

[24] R. Gerodimos (2001). "Democracy and the Internet, Engagement and Deliberation" in *Journal of Systemic, Cybernetics and Informatics* 3(6), p.27.
[25] J. Habermas (1991). *The Structural Transformation of the Public Sphere*, p.34.
[26] I. Esipisu & N. Kariithi (2006). *New Media Development in Africa*, p.32.

whether an actual public sphere exists or not, "the operations of modern democracies assume the existence of a viable public sphere".[27] Habermas's work directs us to the importance of the dynamics of debate and discussion, the importance of equal access to the debate, and the historical connection of access to media and other channels for communication to deliberation.[28]

2.3. Democracy and media

Since the earliest conceptualisation of politics and the political, communication through mass media has stood central as a tool for the transmittance of ideas by political actors. The changing nature of communication ushered in by the dawn of the age of electronic communications has changed the nature of political interaction profoundly. The advent of ICTs, and especially the Internet and mobile phones, which are platforms for new media, has added a new, global dimension to the operations of modern democracies and has in effect created a new "global public sphere" or a global civil society. The global public sphere does not displace, but supplements national public spheres and governments. It is a useful reflexive and brings a larger diversity of agents to the conversation. This inevitably demands greater accountability and good governance from political actors.[29]

While many argue that the actual political decision-making process remains in the hands of ascertained individuals, the complexity of information which those individuals use to engage in this process is increasingly subject to influence by the changing nature of communications. As electronic and digital communication enable citizens to directly and instantaneously convey their wishes to their representatives and to each other, political interaction is bound to be influenced. Lawrence Grossman highlights the consequences of this for democracy. In what he calls the "Electronic Republic" the power of the individual is increased in two major ways. Firstly, there is greater access to the representatives of the individual in the political system, as well as to important information, decisions and pending legislations that might affect the individual. Secondly, the individual has more influence due to direct communication to representatives as well as indirect access to media and organisations.[30] The explosion of citizen journalism and the utilisation of virtual social networks like Facebook, Twitter and YouTube for political purposes are speaking examples of increased citizen access and influence. These new media platforms are unedited and uncontrolled and have given room to individuals, communities and minority groups whose issues would have gone unnoticed a

[27] L. Cowling & C. Hamilton (2008). "Thinking Aloud/Allowed: Pursuing the Public Interest in Radio Debate" in *Social Dynamics* 36(1), p.88.
[28] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.21.
[29] S. Marginson (2008). "The Universal Value and the Development Trend of Civilization" in *The knowledge economy and the global public sphere*. Paper presented at the Beijing Forum, 7-9 November 2008.
[30] D. Ott & M. Rosser (1999). "The Electronic Republic? The Role of the Internet in Promoting Democracy in Africa" in *Democratization 7(1),* p.139

decade ago, to voice their opinions. While so-called "old" media did and still do provide people with the relevant and necessary information, the new audience/listener/reader has now effectively become a co-creator of the content he or she consumes. At the same time, new media simultaneously create spaces for publication and debate in contexts where access to independent media and freedom of expression is limited.

2.4. Bridging the Divide

This next section discusses the general theory as to why Africa is behind in the use of information and communication technology. Digital divide theory was born at the turn of the 20th century when the Internet hype was at its height. The digital divide was defined as the gap between those who do and those who do not have access to computers and the Internet. Access, at the birth of the theory, meant physical access, i.e. the ability a person has to own a personal computer and have an Internet connection.[31]

Research on the topic has since broadened its definitions. Manuel Castells defined the digital divide as "inequality of access to the Internet" where the Internet is "a requisite for overcoming inequality in a society which dominant functions and social groups are increasingly organized around the Internet".[32] Pippa Norris sees it as "any and every disparity within the online community"[33] and Ernest J. Wilson III defines it as "inequality in access, distribution, and use of information and communication technologies between two or more populations"[34]. The digital divide is deemed the biggest between developed countries and the developing world.

While information inequality has been a problem of all times and an extension of the unequal distribution of resources and positions in society, the digital divide describes a new type of inequality for two reasons. The first reason is the character of the new media and their integration into social environments. New media technologies are by definition multi-functional applications. They are used for various purposes in all spheres of social life: information, communication, transaction and entertainment. Integrating all of this into the way society functions requires many more skills for use than do print media, broadcasting, and telephones and therefore creates new inequalities in the mastering of information and strategic skills.[35]

[31] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.1.
[32] M. Castells (2002). *The Rise of the Network Society*, p.248.
[33] P. Norris (2001). *Digital Divide. Civic Engagement, Information Poverty, and the Internet Worldwide*, p.4.
[34] E.J. Wilson (2006). *The Information Revolution and Developing Countries*, p.300.
[35] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.1.

The second reason is related to these new inequalities and the development of new types of societies. Our societies are evolving into information and network societies. Information and network societies are concepts that describe "a social formation with an infrastructure of social and media networks enabling its prime mode of organisation at all levels" with media being the tools that connect all positions in the society.[36] With information as the primary and positional good in the information society, the people in possession of the information, are appropriating an increasing share of all value produced. To do this, they need specific, strategic positions in the network society.[37] This also applies to governments' and states' position and influence within the global political network.

In 1999 UN Secretary General Kofi Annan emphasised that the digital divide has become the world's next big humanitarian crisis: "Three days from now, the world's population will pass the six billion mark. Five out of those six billion live in developing countries. For many of them, the great scientific and technical achievements of our era might as well be taking place on another planet. (. . .) The capacity to receive, download and share information through electronic networks, the freedom to communicate freely across national boundaries – these must become realities for all people. (. . .) These people lack many things: jobs, shelter, food, health care and drinkable water. Today, being cut off from basic telecommunications services is a hardship almost as acute as these other deprivations, and may indeed reduce the chances of finding remedies to them."[38]

Internet access through mobile phones continues to be Africa's silver bullet. The African mobile cellular market is known for its exponential growth rates and the development of mobile telephony in Africa is an ongoing success story. During 2006 alone Africa added 55.3 million mobile cellular subscribers to its subscriber base. Within Africa, North and especially Sub-Saharan Africa were able to add the largest number of new subscribers. Africa achieved the impressive growth rate of 46.2 percent of the mobile subscriber between 2001 and 2005. Accordingly, by end 2006, mobile penetration in Africa was at 22.0 subscribers per 100 inhabitants.[39] Tomi Ahonem, a commentator and author on new media and social media, has further called the mobile phone the "seventh of the mass media". [40] With lower costs and broader accessibility, mobile phones create possibilities for enhanced information and productivity which indirectly increase citizen's capacity to act and

[36] J. Van Dijk (2006). *The Network Society.* Second Edition, p.20.
[37] *Ibid*.
[38] K. Annan (1999). Speech at the ITU Telecom Opening Ceremony, p.4.
[39] International Telecommunication Union (2007). *Telecommunication/ICT Markets and Trends in Africa 2007*, p.10.
[40] T. Ahonen (2009). *Mobile As The 7th Mass Media*.

participate in democratic processes. The mobile phone is being widely acclaimed as the "digital bridge".[41]

Nevertheless, it is clear that Africa remains on the wrong side of the digital divide and some have even gone as far as to say that in the global information society, African countries are the victims of digital apartheid, being systematically excluded from cyberspace and the benefits that it can create. It is important to recognise that the digital divide is not as initially theorised, a technological problem. It is a social problem with a large number of educational, cultural, economic and political symptoms. In developing countries such as in Africa, the motivation to gain access and skills to make use of new media technologies along with the opportunity to gain physical access are primary problems. Furthermore, it is important to realise that the digital divide does not exist in isolation and all expressions of the problem must be contextualised. Problems of motivational access are related to general attitudes about technology and change. A lack of material access is clearly linked to general socio-economic inequality within or between particular societies. And a lack in digital skills cannot be solved without broad educational resources and improvements.[42] When taking Africa's socio-economic and political climate into consideration, it makes perfect sense that the divide continues to be the deepest on the world's poorest continent.

2.5. Empowering the individual

Jan van Dijk argues that motivation is the initial condition of the process of new media access and appropriation of the technology concerned. Motivation, according to him, explains why subsequent kinds of access are reached or not.[43] The question beckons then how Africans can be motivated to gain access to information and communication technologies. Necessary resources available can often be used as a source of supply or support in accomplishing certain aims. Different scholars categorise these resources in different subgroups, but they can be divided mainly into three categories. These are

- material resources;
- social resources; and
- cognitive resources.

[41] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.31.
[42] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.184.
[43] *Ibid,* p.43.

The first relevant resource is the material. Material resources refer to the availability of hardware, software, applications, networks and the usability of ICT devices and applications.[44] This includes the financial capacity to either own a computer or mobile phone and the ability to cover connection costs, or the ability to access the Internet at a school, university or Internet cafe. A recent household study done across Africa by Research ICT Africa, showed that the divide between those able to access the Internet and the services that have become necessary for effective citizenry and consumer participation, and those not able, has widened. This is largely due to the high cost of communications, limited bandwidth and unreliability due to poor network quality. The survey included that there are less than 5% of households with a working Internet connection across the countries surveyed in the 2007- 2008, with most countries below 1%.[45]

Social resources include social support that can provide assistance in using and managing material resources. Social contacts such as friends, family, colleagues, teachers and acquaintances are the agents who first learn and advise other users in using technology. Having a large social network consisting of many computer and Internet users is pivotal for a user that is to cross the motivational access barrier. The unconnected are often isolated and therefore have no motivation to start using the Internet. [46] At the same time effective usage is impossible if those being communicated to are unconnected. Social scientists refer to social capital as the capacity of individuals to accumulate benefits through their personal relationships and memberships in particular social networks and structures which are amplified in digital social networks. These benefits could be in the form of information, influence, social credentials or reinforcement.[47] While people who live in dense physical social networks and communities may be less inclined to use the Internet because they are already socially satisfied, access is most important for people who combine diffuse and long-distance networking with immediate contacts.[48]

Cognitive resources can be divided in two sub-categories. The first constitutes basic knowledge of computers and the Internet and the ability and skills to use them. This aspect of access was long ignored by scholars of the digital divide but is receiving increasingly more attention. A study done by Freese, Rivas and Hargittai in the United States of America found that people with higher general cognitive ability are more likely to have broadband access. They also tend to have adopted the

[44] C. Fuchs & E. Horak (2006). "Africa and the Digital Divide" in *Telematics and Informatics 25(2008)*, p.101.
[45] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2), p.ii.
[46] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.37.
[47] M. Warschauer (2003). *Technology and social inclusion: Rethinking the digital divide,* p.154.
[48] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society*, p.37.

Internet earlier and use it more often. All of these outcomes seem likely associated with the practical ability to use the Internet efficiently and effectively.[49]

The second sub-category constitutes individual psychological capacity to use the Internet. Research on ICT acceptance in developing countries indicates that psychological factors shape motivation, perceptions, and attitudes towards technology and usage behaviour, all of which, in turn, predict usage intention. Self-determination theory (SDT) is a psychological theory that aims at explaining psychological factors that promote well-being and development across various life activities. SDT emphasises the influence of self-motivation on regulating and changing behaviour which, in turn, affects behavioural outcomes.[50] SDT identifies three essential psychological needs that, when satisfied, will facilitate an individual's positive personal growth and social development. They are a) the need for competence, b) the need for autonomy, and c) the need for relatedness. The need for competence refers to people's inherent desire to be effective in dealing with the environment.[51] The need for autonomy refers to people's urge to be causal agents with choice, preference and freedom.[52] The need for relatedness refers to the predisposition to interact with, be connected to, and experience caring for other people.[53]

In addition to SDT, the term *self-efficacy* describes an individual's belief in his or her ability to successfully perform a specific activity.[54] Studies have shown that ICT skill training increases self-efficacy which in turn influences ICT acceptance. This suggests that the incorporation of self-efficacy in research will improve an understanding of the flow of behaviours from decisions to receive training to ICT skill development and subsequent acceptance. Computer self-efficacy refers to "an individual's judgement of efficacy across multiple computer domains as well as performing specific computer-related tasks"[55] (such as using the Internet).

[49] J. Freese, S. Rivas & E. Hargittai. 2006. "Cognitive Ability and Internet Use among Older Adults" in *Poetics* 34(2006), p.246.
[50] A. Techatassanasoontorn (2008). The Integrated Self-Determination and Self-Efficacy Theories of ICT Training and Use: The Case of the Socio-Economically Disadvantaged, p.4.
[51] R. White (1959). "Motivation Reconsidered: The Concept of Competence" in *Psychological Review* 66(1959), pp. 297-333.
[52] R. de Charms (1968). *Personal Causation: The Internal Affective Determinants of Behavior*, p.7.
[53] R. Baumeister & M. Leary (1995). "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation" in *Psychological Bulletin* 117, pp. 497-529.
[54] A. Techatassanasoontorn (2008). The Integrated Self-Determination and Self-Efficacy Theories of ICT Training and Use: The Case of the Socio-Economically Disadvantaged, p.6.
[55] G.M. Marakas, R.D. Johnson & P.F. Clay (2007). "The Evolving Nature of the Computer Self-Efficacy Construct: An Empirical Investigation of Measurement Construction, Validity, Reliability and Stability Over Time" in *Journal of the Association for Information Systems*, 8(1), pp. 16-46.

The behaviour behind technological innovation further involves a learning and problem-solving orientation. Mokyr has formulated the characteristics of the innovative psyche as: a willingness to challenge problems perceived in the environment, using ingenious means and whatever resources available, for the sake of improvement and anticipated rewards. Following the principles of the behavioural perspective adopted earlier, however, it is not really significant what kind of mentality, or even sets of values or attitudes, drive those who participate in technological innovation. Rather, what is significant is that, in a system geared towards technological innovation, a distinct kind of behaviour is produced: a behaviour that aims at improvement. Such behaviour perpetuates autocatalytically: a behaviour that aims at improvement materialises in processes or technological artefacts, which then serve as a cause for further behaviour that aims at improvement. Technological change may be said to be the principle reason why industrialised countries, that have learned to harness self-perpetuating systems of innovation, have through the course of history achieved goals including economic growth, reduction of inequality, and eradication of poverty.

The last questions then remains how can a culture, that stimulates motivation to make use of ICTs, in order to improve life circumstances and personal development, be fostered in African states? Research suggests that communities are empowered when they become able to take control of their knowledge environment and the conventional paradigm of knowledge. The Internet as platform for new media technologies has the ability to provide information to expand the necessary knowledge for democratic consolidation and development. Knowledge for empowerment aims to recognise the local power structures that influence local knowledge management disparities and target the groups that are most marginalised. The empowerment of any group centres on its capacity to generate and use knowledge, and to share it on an equal basis with other groups.[56] According to Mundy and Sultan information is useful "only if it is available, if the users have access to it, in the appropriate form and language i.e. if it is communicated, if it circulates among the various users with appropriate facilities and if it is exchanged".[57]

The process of democratisation is often known to be uneven as the power dynamic shifts between governments and their respective constituencies. History has shown that in almost all cases where governments are hostile to citizens' civil and political rights, they also have the power and resources

[56] S. Siochru & B. Girard (2005).*Community-based Network and Innovative Technologies: New models to serve and empower the poor*. A report for the United Nations Development Programme, p.41.
[57] P. Mundy & J. Sultan (2001). *Information revolutions: How information and communications management is changing the lives of rural people,* p.13.

to deny these rights. It is therefore of the utmost importance to support governments and raise their awareness of citizens' rights and processes needed to ensure citizens are able to access these rights. At the same time support to civil society groups are equally important so that they can demand their civil and political as well as economic, social and cultural rights.[58]

In the cases of young and developing democracies, it is essential that institutions, processes and mechanisms are in place to support and underscore national efforts to strengthen democracies. Failure to do so, some argue, is to leave inexperienced democracies to chance and often at the mercy of unchecked abuse by governments. The slow uptake of Internet usage in Africa is to a great extent attributable to limited infrastructure, including fibre-optic cable and electricity in rural areas. Other issues such as low Internet usage by governments, schools and health and agricultural institutions as well as low ICT literacy levels, lack of local content and overall low income levels stand in the way of the Internet being optimally used for democratisation purposes.[59]

In addition to raising awareness and building understanding of (i) the potential of ICTs to connect people, (ii) democratic principles and practice, and (iii) the potential of ICTs to advance democracy, it is critical that the community voice in public debate and decision-making must be strengthened to maintain transparency and accountability by government. It is therefore important to establish strong non-government organisations and media practitioners to engage critically on issues of democracy as well as institutional strengthening of state actors to enhance transparency and efficient governance.[60]

The above theoretical and conceptual framework has led the researchers to the following key principles and conclusions: Several conditions need to be weighed and considered before strategising the promotion of the Internet to stimulate democracy in African countries. A clear and concise understanding of what a democratic system and culture entail needs to be defined while specifically taking into account the African context. The continent's history as a whole as well as each sample country's unique national history and political context must be considered before theorising a process of democratisation with the aid of the Internet and new media technologies. Democratic practice and engagement as well as the state of the public sphere and essential other issues, for instance literacy levels must further be taken into account and support for existing civil society

[58] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.9.
[59] *Ibid,* p.10.
[60] *Ibid,* p.11.

groups that are contributors to change are important as they will be the ones to drive democratic engagement. Once again the African states' distinctive civil society contexts must be taken into account. It is important to recognise the socio-cultural power balance in a country with focus on issues such as gender, ethnicity, class divisions and access to resources. All the above must be analysed in the democratic context of each state. A broad understanding of how citizens currently communicate as well as a thorough investigation of the existing media context must be done.[61] An already media-rich and media-literate society will likely be more susceptible to new media platforms and technologies as can be deduced from studies done in developed countries. Attention need furthermore be given to crucial infrastructure problems for such as the lack of bandwidth availability and high connection costs. This remains a great obstacle in Africa.

Familiarity with and motivation to use the Internet is crucial. Individuals at grassroots levels can be motivated to make use of new technologies if they realise that the Internet can be a powerful tool in the realisation of their personal goals. Only when people realise that the integration of new ICTs into public and private life will lead to improved living conditions and political and civil rights, will they be motivated to increasingly use these technologies. Efforts should be made to raise awareness of these possibilities among the citizens of the sample countries.

[61] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.32.

3. Literature Review

The next section is allocated to looking at the history of the topic and outlining previous studies related to the topic. While this study is unique in its comparison of the three sample countries, it draws certain aspects of its conceptual framework and operational definitions from a collection of previous studies. This allows the researcher to optimally make use of reliable input from researchers based locally and internationally. A review of the existing literature on the topic makes it possible to recognise trends and extraordinary developments within the research on the subject matter and allows for the elucidation of limitations as well as potential for future investigations.

Literature on the role of the Internet in the democratisation process remains relatively young and only date since the 1990's when the Internet bubble burst. Since then, estimations on the impact of the Internet on developing economies and democracies have altered significantly. Initial reactions from scholars showed immense and almost irrational excitement about the endless possibilities for communication and networking and subsequent business opportunities and economic growth. As economic development are inextricably linked to improvement in developing nations, the profound restructuring of the global capitalist system inevitably influenced the nature of these democracies as well as the role of the state. Almost two decades later, it is only now becoming increasingly clear that the benefits of the so-called information revolution seem to have been somewhat overestimated. More recent scholars warn against utopian reflections on the topic and urge researchers to adopt an evidence-based approach to study the impact of the Internet on the democratic climate in developing countries.[62]

New studies and theories are constantly being added to research on the impact of the Internet and information revolution in Africa and the rest of the developing world. Increasingly more data-based studies and survey reports are being conducted in an attempt to provide political leaders and investors with concrete information about Africa's position with regards to the digital divide. There is general consensus that potential for growth in the industry is great, but many obstacles that go hand in hand with the rest of Africa's development problems are currently standing in the way of optimal Internet usage and development in the information sector.

A major shift in focus within research on the topic has been in the emphasis on the type of resources necessary for optimal Internet usage in developing countries. The initial focus of scholars of the

[62] A. Finlay (2009). *Global Information and Society Watch 2009.* Published by Association for Progressive Communications (APC) and Humanist Institute for Cooperation with Developing Countries (Hivos).

digital divide was the lack of material resources as primary obstacle for Africa's sub-optimal Internet usage. As research developed over the last decade, it has become clear that this is only the first level of the problem. Researchers have found that Africans lack the cultural mentality of their Western counterparts to engage in advanced social networking. This does not in any way reflect their cognitive ability to engage with new ICTs, but rather a difference in priorities. Africans are simply not yet motivated to use the Internet as they have not yet felt its benefits in any way affect their lives for the better. The study of what it is that motivates Africans to use the Internet has become an entirely separate and specialised field of study for scholars of the digital divide.

Extensive studies have been conducted on a variety of topics surrounding the development of ICT and Internet usage for the promotion of democracy. A clear understanding of the potential of the Internet to stimulate democracy in Africa can be gained from studies done on the topic in developed countries such as the United States of America. There seems to be relative consensus that the development of digital technologies have contributed positively to civic engagement and active public participation in developed countries, although the level of optimism about this differs. Literature on related and relevant topics can be divided into four sub-categories: (a) ICT access in Africa; (b) ICT and democracy; (c) ICT for development with education as a fundamental segment of this sector; and (d) new media and democracy. Lastly the researcher reviews the existing literature on ICT in the three sample countries, South Africa, Zambia and Kenya.

The first sub-theme the researcher investigated was ICT access in Africa. Equal ICT access for all citizens remains the first prerequisite if new communication technologies, such as the Internet, are to impact significantly on democratic culture. The International Telecommunications Union (ITU) produces substantial survey-based data on ICT development in Africa.

According to the ITU's *ICT Markets and Trends Report* of 2007 only 3.8 percent of the world's 1.1 billion Internet users are situated in Africa. The report recognises a lack of investment-intensive infrastructure, high tariffs and poor media literacy levels as main obstacles to Internet usage, but regards the mobile boom as a sign that Africa has an increasingly strong ICT demand. The report estimates that 55 percent of the village population in Sub-Saharan Africa are unconnected without access to fixed, mobile and/or data services. Although many African countries have some type of universal service program for connecting rural areas, they have been mostly unsuccessful.

The New Partnership for African Development (NEPAD), in 2001, established an ICT task team with the assignment of accelerating the development of African inter-country, intra-country and global

connectivity. The committee also looked at promoting conditions for Africa to be an equal and active partner in the global information society.[63] Two of the project's development objectives remain to reduce the cost of communication and ensure reliable and secure communication. A stakeholder workshop held in 2004 in Johannesburg agreed to a basic broadband fixed-line network for Eastern and Southern Africa consisting of terrestrial and submarine segments that will eventually expand to the entire continent. NEPAD's aim is to provide open, non-discriminatory and affordable access to the network for all Africans. The two networks, Uhurunet (submarine) and Umojanet (terrestrial) are currently under construction and already in use in several countries.[64]

The picture for mobile cellular penetration looks somewhat better. In 2006 an estimated 45 percent of Sub-Saharan African villages were covered by a mobile signal and while coverage does not necessarily mean connectivity the mobile industry is growing rapidly.[65] Alison Gillwald and Christoph Stork for Research ICT Africa present evidence of growth in ICT access in Africa in a study. *ICT access and usage in Africa* reports on the findings of household and individual surveys done over 17 African countries from 2007 to 2008. The studies confirm that mobile phones are currently addressing the lack of communication technologies available to Africans. It also interestingly suggests that the gap between those who are able to access the Internet and services that have become necessary for effective citizenry and those who are not able to, has widened. This finding invites itself to further investigation.[66] An article by C.J. Kenny in "Information Technology for Development" argues that liberalisation of the telecommunications sector in Africa combined with targeted, auctioned subsidies to local entrepreneurs are both likely to have a significant impact on rural Internet access rates that may likely help solve the aforementioned problem. [67]

An adjacent study done on mobile substitution in Sub-Saharan Africa confirms the significant penetration of mobile connectivity in this region. The study, *Mobile Cellular Telephone: Fixed-line Substitution in Sub-Saharan Africa* found that mobile phones are substitutes for fixed-line phones across the household income range. This conclusion supports Hodge's (2005) finding that mobile

[63] E. Katiti (2010). *NEPAD ICT Broadband Infrastructure Programme: Interconnection via Umojanet*. Presentation to the African Peering and Interconnection Forum, Nairobi, 11-12 August 2010.
[64] *Ibid*.
[65] ITU (2007). *Markets and Trends Report.*
[66] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2).
[67] C.J. Kenny (2000). "Expanding Internet access to the rural poor in Africa" in *Information Technology for Development* 9(1), p.26.

phones are substitutes for fixed-line phones at lower call volumes.[68] In addition, this article argues that it is the flexibility provided by pre-paid payment options and the lower income barrier (in contrast to fixed-line phones) that has created the mobile phone phenomenon. Communication devices that require regular (or consistent) financial commitment are less successful with poor people. The success of prepaid systems shows that the mechanism of controlling costs and providing greater flexibility is preferred over the cheapest form of communication.[69]

As mentioned previously, research focused on social support for and the cognitive ability of citizens to access ICTs, have become a significant separate field of study. A study titled *The Integrated Self-Determination and Self-Efficacy Theories of ICT Training and Use: The Case of the Socio-Economically Disadvantaged* develops integrated self-determination and self-efficacy theories, as discussed in the theoretical framework, to examine the influence of self-determined motivation on ICT training outcomes and subsequent ICT acceptance while emphasising Internet skill development and usage.[70] Other researchers who have pointed out the importance of this aspect to improving ICT access and usage in Africa include Jan van Dijk (*The Network Society*[71] and *The Deepening Divide*[72]) and Manuel Castells (*The Rise of the Network Society*[73]). Most studies on the topic concur that setting up the necessary infrastructure in developing countries will not suffice to erase Africa's current state of technological disadvantage and that there are many obstacles specific to Africa that need first to be overcome.

The second sub-theme the researcher focused on was that of ICT and democracy. To understand the impact of ICT on democracy, it is important to first acquire a comprehensive understanding of the democratic context and specifically the democratic engagement in a country. This also means understanding the shape of the public sphere including the legal, regulatory and social or cultural context, and other central issues such as literacy levels, access to information and knowledge, practices of deliberation and group action, and so on.

[68] J. Hodge (2005). "Tariff structures and access substitution of mobile cellular for fixed line in South Africa" in *Telecommunications Policy, 29*(7), p.493.
[69] S. Esselaar & C. Stork (2005). "Mobile Cellular Telephone: Fixed-line Substitution in Sub-Saharan Africa" in *The South African Journal of Information and Communication 6*.
[70] A.A. Techatassanasoontorn and A. Tanvisuth (2008). "The Integrated Self-Determination and Self-Efficacy Theories of ICT" in *Training and Use: The Case of the Socio-Economically Disadvantaged*. SIG on Global Development Workshop.
[71] J. Van Dijk (2006). *The Network Society.* Second Edition.
[72] J. Van Dijk (2005). *The Deepening Divide: Inequality in the Information Society.*
[73] M. Castells (2000). *The Rise of the Network Society*.

There are multiple resources that provide a range of information on democracy in Africa. Afrobarometer surveys offer extensive data about the democratic condition of African nations. It is based on public opinion surveys done among citizens in all African countries and includes analyses of attitudes about governance, macro-economics and markets, social capital and citizen participation as well as general attitudes towards democracy.[74] Although democratic regimes remain fragile in most African countries, these surveys show that support for democracy remains consistently positive. Citizens however remain adamant that governments improve delivery of political "goods" and regime consolidation is mostly critically hinged on popular approval of government achievements.[75] Afrobarometer surveys are designed and conducted from a specifically African perspective and offers essential and context-specific information for the study of democracy-related topics in Africa. In addition, Freedom in the World surveys are furthermore helpful in the assessment of basic civil liberties and political rights in African countries.[76] What the above studies confirm is that all three sample countries are faced with significant challenges in terms of institutional democracy. This was however to be expected as they are classified developing countries. It is exactly in these shortcomings where the researcher hypothesises the effective use of ICTs has the potential to make a difference and stimulate democracy. This includes areas such as government communication, organisation of civil establishments and civil engagement in political issues, the betterment of education and so forth.

It is imperative to bear in mind the socio-economic and cultural disposition of African countries when studying its conditions. Increasingly more research suggests that for African countries to consolidate their political regimes, a model of democracy, specifically focused on the African developing context will have to be developed. Several scholars have written on the topic on which Guy Berger is regarded an authority. In his article, "Theorizing the Media-Democracy Relationship in Southern Africa" he points out that it is important that African countries redefine Western norms and concepts such as democracy and media to suit the continent's specific context and needs.[77] African nations have undeniably unique ethnic compositions and cultures that inevitably influence what citizens regard as political priorities and important for successful community life.

Research on the Internet's role in democracy in developed countries is useful as it provides a clear picture of the possibilities that exist for developing countries. A 2009 project titled *The Internet and*

[74] D. Carter (2008). *Data Codebook for Round 3 Afrobarometer Surveys in 18 African Countries.* Prepared at Michigan State University, January 2008

[75] M. Bratton & R. Mattes (2007). "Learning about Democracy in Africa: Awareness, Performance, and Experience" in *American Journal of Political Science 51(1),* p.197.

[76] Freedom House (2010). *Freedom in the World Report 2010*.

[77] G. Berger (2002). "Theorizing the Media-Democracy Relationship in Southern Africa" in *Gazette: The International Journal of Communication Studies* 64(21), p.30.

Civic Engagement, done by the Pew Research Centre in the United States of America confirmed that the Internet does provide new paths for citizens to reach government services and information and the survey suggests that more and more Americans regard the Internet as a key tool to reach government and actively participate in democracy. At present however, online, just as conventional political activities, remains the domain of those with high levels of income and schooling.[78] This problem is exacerbated in African countries and a critical point to be considered as it warns against the overestimation of the impact of the Internet on democratic practices at ground level. Thus several studies have been launched to investigate the potential there is to involve the grassroots in online networking by establishing network infrastructure in rural Africans communities.

A significant study was conducted on specifically the potential of the Internet to stimulate democracy in Africa. In 2009 the Swedish Department of Empowerment documented the possibilities of the Internet to empower individuals and so strengthen democracy. The report suggests several strategies to promote Internet usage in three sample countries and draws a clear causal connection between Internet usage and democracy. While acknowledging the infrastructural limitations on Internet usage in Africa, the study places strong emphasis on the development of individual computer skills and capacities as an important priority to close the digital divide, both between Africa and developed countries, as well as along class divisions within countries.[79]

Additionally Hakikur Rahman posits that empowerment is something that marginal people need to manage on their own and gain control over, and ICTs are excellent tools to empower marginal communities. Rahman compiled a book titled *Empowering Marginal Communities with Information Networking* that deals with strategies of reaching marginal communities, most often located in rural parts of developing countries, with affordable, appropriate and accessible options of ICT technologies.[80] Rahman deems the setting up of supportive information or knowledge centres in villages crucial in facilitating interaction and information necessary to improve ICT skills of citizens.

Furthermore, an empirical analysis of Middle Eastern countries by the Institute for Research on Innovation and Technology Management during the 1995-2003 period showed that countries that implemented privatisation of their government owned telecommunication sector, and took a more liberal approach towards ICT development, enjoyed a higher degree of ICT expansion and digital

[78] A. Smith *et al.* (2009). "The Internet and Civic Engagement" in *Pew Internet & American Life Project*.
[79] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*.
[80] H. Rahman (ed.) (2006). *Empowering Marginal Communities with Information Networking,* p.vii.

freedom.[81] The World Bank's report on *Economic Impacts of Broadband* supports the findings of this study.[82] *The Contribution of ICT to Freedom and Democracy* study also found that there is a strong association with civil liberties and political rights particularly within the two main ICT indicators, specifically, the Internet and mobile cell phones. The increased number of Internet users and weblogs published on the Internet during the period of the study, in addition to the increased presence of young people online in NGOs, human rights activists groups, political parties and organisations and religious and ethnic minorities, are a clear indication of the ability of ICTs to promote freedom of expression in this region and possibly in similar developing regions in Africa.[83]

ICT for development is the third sub-theme under discussion and is equally relevant as the improvement of democracy in African countries goes hand in hand with national development goals. The topic constitutes a complete field of study and has been increasingly in the spotlight as ICTs become acknowledged for their use in this regard. G. Harindranath argues that while it is widely accepted that ICTs have an important role in national development, the nature of the link between the two remain uncertain. This is largely due to a lack of clarity on how ICT is conceptualised in this context. He argues that the manner in which ICT is viewed represents a hierarchy in the tool and computational views, while essential for understanding the ICT artefact, do not have much developmental impact. He further posits that it is critical that we examine the potential of ICT in terms of knowledge creation.[84] The way in which ICT is utilised, categorises how different types of ICT-related development initiatives can be applied to affect development. Lastly, although the impact concept has a hierarchy by definition (i.e., the tertiary effect of a new technology has a greater impact on society than the secondary effect), he emphasises that the primary and secondary effects are necessary conditions for development, but not sufficient. Harindranath argues that it is important to look at the tertiary effects for understanding ICT influence on national development which he conceptualises in terms of human development.[85]

A growing need for information on ICTs and development, urged the University of Cape Town in 2008, to create a research centre to explore this topic. At present, this centre is the only multi-disciplinary group based in Africa working in ICT for development. The ICT for Development Centre

[81] F. Shirazi (2008). "The Contribution of ICT to Freedom and Democracy: An Empirical Analysis of Archival Data on the Middle East" in *The Electronic Journal on Information Systems in Developing Countries* 35(6), pp.1-24.
[82] C. Zhen-Wei Qiang *et al.* (2009). "Economic Impacts of Broadband" in *Information and Communication for Development 2009*, p.35.
[83] F. Shirazi (2008). "The Contribution of ICT to Freedom and Democracy: An Empirical Analysis of Archival Data on the Middle East" in *The Electronic Journal on Information Systems in Developing Countries*, 35(6), pp.1-24.
[84] G. Harindranath and M.K. Sein (2007). *Revisiting the role of ICT for development*.
[85] *Ibid.*

conducts research on the utilisation of mobile and fixed-lined connectivity towards improving living standards in poor, developing countries. Examples of projects by the centre include work with the Cell-life-project (www.cell-life-org.za) where the use of mobile handsets to gather data on patients being treated with anti-retrovirals is developed. The application of mobile phones for making financial transactions in rural communities is also being explored.

The International Labour Review published an article in 2001 that hypothesised that ICTs have the ability to allow developing countries to "leapfrog" development stages. The article suggests that the continuing declining costs of new communication technologies suggest extraordinary potential for economic growth by bypassing some of the processes of accumulation of human capacities and fixed investment in order to narrow the gaps in productivity and output that separate industrialised and developing countries. Internet technologies' support for a global flow of information erase constraints of time and distance and provide unprecedented varieties of "open" formats for the distribution of information and the establishment of inter-organisational linkages.[86] While the article qualifies its hypothesis with extensive evidence, the question arises whether the possibility of "leapfrogging" is realistic. The article however does deliver relevant commentary on the influence of ICT on Africa's economies which inevitably impacts the state of its democracies.

Several projects have been launched in different parts of Africa where ICT is being applied to achieve development goals. The Information for Development Programme funded by the World Bank was launched in 1995 and consists of various programmes in different countries that aim to improve the quality of life of Africans through ICT by implementing it as a tool to improve either socio-economic, political or cultural conditions.[87] The aim of the project is to build an information base that can provide a foundation from where the improved conditions can be replicated and expanded.

The Association for Progressive Communications (APC) is currently involved in a project titled Communication for Influence in Central, East and West Africa (CICEWA). Recently they produced a study, the *Kenya Communications Amendment Act 2009. Progressive or Retrogressive?* The project sought to investigate the history of communications policy and pointed to a number of problems arising in the way in which policy had developed, been implemented and was currently impacting on the goal of universal affordable broadband in terms of content and infrastructure, provoking the

[86] W.E. Steinmueller (2001). "ICTs and the possibilities for leapfrogging by developing countries" in *International Labour Review* 140(2), p.195.
[87] S. Batchelor, S. Hearn, S. Peirce, M. Sugdem & S.M. Webb (2003). *ICT for Development. Contributing to Millennium Development Goals: Lessons Learned from Seventeen Infodev Projects*. A World Bank Project.

question central to the CICEWA project: What learning lessons does the policy narrative of Kenya hold for today?[88] The study looks at ICT as tools to reach development goals for Kenya. ICT legislation introduced by the government, deals specifically with the issues of privacy and security as means of building citizens' security and confidence in the Internet. These include the Kenya ICT Bill 2007, the Consumer Protection Bill 2007, and the Electronic Transactions Bill.86

In addition to the above mentioned projects the World Summit on the Information Society (WSIS) Plan of Action aims "to connect rural villages with ICT s and establish community access points..."[89] Determining the number of rural villages in African countries is in itself however a great challenge as most countries' government administrations do not reach that deep. Administrative divisions often tend to be one layer before villages. This can be regarded as a limitation of all studies of rural connectivity through ICT in Africa as these are precisely the localities that stand to gain the most from ICT connectivity. It is also clear that for ICT to be utilised effectively for development, specific development goals, appropriate for every separate country need to be clearly defined and established.

A significant sub-category and manifest progression from ICT and development is the role of ICT in education as this is an essential part of empowering ordinary people to be politically active citizens. As Meles Zenawi, former Prime Minister of Ethiopia said at an ICT conference in Addis Ababa in 2005: "We were convinced that we should invest every penny we have on securing the next meal for our people. We did not believe serious investment in ICT had anything to do with facing the challenges of poverty that kills. Now I think we know better. We recognise that it is a vital and essential tool for fighting poverty – for beating poverty that kills – and ensuring our survival."

The integration of ICTs in education allows the former to become a tool in the hands of grassroots people in gaining agency in a political as well as socio-economic context. The goal of fully integrating ICT in educational administrative and pedagogical processes continues to be restricted by the lack of access to ICT infrastructure, affordable connectivity with sufficient bandwidth, and a reliable supply

[88] R. Wanjiku (2009). *Kenya Communications Amendment Act 2009. Progressive or Retrogressive?* As part of the Association for Progression Communication's Communication for influence in Central, East and West Africa (CICEWA) project.
[89] Market Information and Statistics Unit (2007). *Measuring Village ICT in Sub-Saharan Africa*. Prepared for the International Telecommunication Union's Development Sector.

of electricity.[90] A study done in 2006, *Harnessing the Internet for Development* summarises initiatives being taken to overcome constraints that limit the use of the Internet in African education. Several other studies and projects on the topic permit an estimation of the current state of ICT in African education as well as the potential for ICT to extend this sector of national development in African countries.

A number of comments can be made in this regard. As noted in a recent study cited in the *Electronic Journal on Information Systems in Developing Countries,* investment in ICT by itself does not foster human development, but must be accompanied by investment in education and health as well.[91] Firstly, training teachers to be computer literate is not enough. Teachers must be able to design and adapt content material to fit the needs of their student, to manage information and to be aware of the ethics and dangers inherent in the use of ICT technologies.[92] The NEPAD e-Schools project in its Framework for Teacher Professional Development and Training, the African Virtual University's (AVU) Teacher Education Project, and UNESCO's Teacher Training in Sub-Saharan Africa (TTISSA) programme are examples of continuous, integrated approaches to teacher development in the use of ICTs.

Secondly, the need for digital learning materials that are relevant to local curricula is becoming more urgent as ICT becomes integrated into the teaching process. Ministries are identifying institutional responsibilities and are encouraging collaborative efforts on a regional basis. The AVOIR project is an example.[93] The Free and Open Source Software Foundation for Africa (FOSSFA), Bokjang Bokjef in Senegal, and LinuxChix Africa are examples of organisations promoting the use and development of FLOSS in Africa. A range of programmes and projects involve one or more African countries in varying numbers. Examples include high-level intergovernmental, multi-stakeholder programmes such as the NEPAD e-Schools Program, civil society institutions focused on networking African schools such as SchoolNet Africa (SNA) [94], university partnerships such as the African Virtual University (AVU), and collaborative learning projects that directly involve learners and teachers from schools in several African countries such as the Global Teenager Project (GTP), Mtandao Afrika (MAf), World Links[95], and the International Education Resources Network (iEARN).

[90] G. Farrell & S. Isaacs (2007). *Survey of ICT and Education in Africa: A Summary Report, Based on 53 Country Surveys*, p.13.
[91] *Electronic Journal on Information Systems in Developing Countries. (*2007). 29(5)
[92] *Ibid.*
[93] Welcome to AVOIR (website).
[94] Schoolnet Africa. (website)
[95] C. Gadio (2001). *Exploring the Gender Impact of World Links*.

The Information for Development Programme (InfoDev) is a comprehensive summary report on a survey of ICT and education in 53 African countries. The report establishes essential information such as how ICTs are currently being used in the education sector in Africa and what strategies and policies are in place in support of development of ICT in education. It also looks at common challenges and restrictions specific to African countries and what is in actual fact happening at ground level.[96]

After looking at the role of the Internet as such in the democratisation process, the review of existing literature on the topic led the researcher to consider the specific role of social and network media as applications of the Internet. The role of new media to promote democracy is regarded a fourth sub-theme and should not be seen simply in the light of its ability to provide access to government representation and information, but also as the opening up of opportunities for citizens to participate in the public sphere and create new public spheres. The study of new media and democracy is essentially a study of how the Internet (and ICT) is being applied in social, cultural and political life to enhance democracy. After everything has been said about the importance of establishing infrastructure and allowing all citizens access to ICTs and more specifically, the Internet, new social media provide the platforms where people can fulfil their potential as active citizens of a democratic country. The concept "media participation" becomes central in describing how citizens become politically involved and empowered. Erik P. Bucy and Kimberley Gregson write that media participation is ultimately *A Legitimizing Mechanism of Mass Democracy*.[97]

Roman Gerodimos goes on to describe the character of "e-citizenship" and the conditions that have to be met if a digital public sphere that provides equal opportunity for citizens to engage on important issues is to be created. While supporting the use of new media, an important issue the author warns against is the creation of new inequalities or the asymmetric creation of empowerment of specific groups.[98] Gerodimos refers to the existence of the expansion of a local digital divide, wherein participation in social media is determined by income and education and mainly situated in urban areas.

[96] G. Farrell & S. Isaacs (2007). *Survey of ICT and Education in Africa: A Summary Report, Based on 53 Country Surveys*, p.16.
[97] K. Gregson and E.P. Bucy (2001). "Media Participation: A Legitimizing Mechanism of Mass Democracy" in New *Media & Society* 3(3), p.357.
[98] R. Gerodimos (2001). "Democracy and the Internet, Engagement and Deliberation" in *Journal of Systemic, Cybernetics and Informatics* 3(6), pp.26-31.

At the same time, Freedom House's *Freedom on the Net* report of April 2009 suggests that as new media have grown to dominate the flow of news and ideas, governments have introduced stricter measures of regulating and censoring information. The report captures not only the actions of governments but also the vigour, diversity, and activism of the new media domain in each country in the sample of 15, regardless of – or despite – state efforts to restrict usage.[99] This is important information in the context of new media's role in democracy.

The birth of social media changed the dynamic between politics and media irrevocably. In a speech about "new media and cyber-democracy" given by Professor Fackson Banda of Rhodes University, he argues that the new opportunities for enhanced and engaged citizenship presented by African media as they become implicated into the digital age, acquiring, in the process, characteristics of 'new media' are central to Africa's development.[100] The way citizens in developed countries are informed of important issues have changed. The way news is consumed is fast and instant and based on foraging and opportunism. The Pew Institute in the USA published a report, *Understanding the participatory news consumer*, in March 2010 that reported 59% of Americans now get their news from a combination of online and offline sources and the Internet has surpassed newspapers and radio in popularity as a news platform. To a great extent, people's experience of news is becoming a shared social experience as people exchange links in emails, post news stories on their social networking site feeds and quibble over the meaning of events in discussion threads. More than 8 in 10 online news consumers get or share links in emails.[101]

The above mentioned data has a range of implications for the communication between citizens and their political representatives. If the way information is shared and consumed by citizens has changed, so has the way they perceive their relationship with government. A perfect, albeit radical, illustration of this is the case of the Iranian national elections in June 2009. Citizens made use of social media networks such as Twitter and Facebook to inform the world of the corruption of the elections and the draconian measures of the state to control unsatisfied and raging masses, forcing a reaction from authorities. Likewise, social media have also changed the way politics are conducted. In South Africa political parties launched extensive online campaigns during the 2009 national elections and a record amount of youths voted in the election, indicating perhaps an increase in political engagement in the demographic group most active on the Internet.

[99] Freedom House (2009). *Freedom on the Net Report 2009.*
[100] F. Banda (2006). *Media and cyber-democracy in Africa: an introduction,* p.4.

[101] K. Purcell *et al.* (2010). *Understanding the participatory news consumer*. A Pew Internet report, p.6.

Jenkins and Thorburn (2004) argue in *Growing a Democratic Culture: John Commons on the Wiring of Civil Society* that once again it must be carefully considered whether an American notion of cyber-democracy can and should be applied to Africa.[102] What is clear however is that new media technologies have great potential to influence the way a democratic system is managed as well as the nature of the democracy itself.

Lastly the researcher considered existing literature on the sample countries. These studies are imperative as it provides context specific information on the relevant countries as well as an understanding of the current state of Internet penetration in the three countries. The next section will be a discussion of the available studies and projects on the three sample countries, South Africa, Kenya and Zambia.

South Africa is regarded the leading African country in terms of ICT development on the continent. A comprehensive study, *Mapping ICT access in South Africa*, emphasises the importance for South Africa to generate and sustain access to ICTs for its citizens. According to this study, the Universal Service and Access Agency of South Africa (USAASA) aims, as an agency of government, to roll out ICT infrastructure on a national basis in an effort to, among other objectives, consolidate democracy and human rights through citizens' increased accessibility to information as well as increased opportunities for communicating freely with each other on matters of civic importance.[103]

South Africa faces the significant challenge of reducing and ultimately removing the differences in access to ICTs between social groups, thereby extending the benefits of technology to all sectors of South African society. To develop appropriate strategies and policies to achieve the above, there has to be a clear understanding of what conditions currently exist and what gaps there are. The pattern according to which ICT access and usage is distributed spatially in a country between different areas and is distributed demographically between different socio-economic classes is of vital importance. The above studies address this topic and suggest strategies as to how South Africa can make use of ICTs to promote democracy in the country's unique context.

[102] H. Jenkins & D. Thorburn eds. (2004). "Growing a Democratic Culture: John Commons on the Wiring of Civil Society" in *Democracy and New Media,* p.25.
[103] K. Tlabela *et al*. (2007). *Mapping ICT access in South Africa*, p.1.

South Africa has nine provinces, three of which are considered thriving ICT clusters: Gauteng, the Western Cape, and KwaZulu Natal.[104] According to a study done by the government department of innovation, industry and regional development in Australia, *Emerging ICT Market Strategy: South Africa*, South Africa poses dual economic opportunities in the ICT sector due to its mix of developed and developing economy characteristics. The market is dynamic and shows a propensity for consuming new technologies and finding creative ways to apply them to the challenges accompanying a developing economy.

Kenya's ICT landscape differs extensively and is only in its infant stage. According to a study done by the ministry of foreign affairs of Denmark, *Business Opportunities within the IT and Telecommunication Industry: Kenya*, the government and the private sector are working towards securing that Kenya has the necessary infrastructure, human resources, legal framework and access to finance in order to achieve the goal for the sector to contribute one fifth of the country's export. Large investments in a country wide fibre network as well as fast developments in the mobile information technology sector underlines this trend. Opportunities in Kenya are mainly based on the softer ICT skills that the country possesses and the failure of current ICT providers in identifying and focusing on special needs of local companies. Kenya is well positioned as an exporter, since the country has much experience with exports from being the world's largest exporter of flowers and tea. Finally, the literacy rate in Kenya is among Africa's finest and there is access to qualified, trainable and IT-exposed employees.[105] The report provides comprehensive information on the size and ownership of Kenya's ICT industry as well as its ICT labour force and its infrastructure and hardware availability. It finally emphasises the opportunities for ICT development in the country.

A report on *Kenya's Information & Communications Technology Sector* in 2005 provide information on the country's ICT supply and market conditions with a broad overview over mobile and fixed line access. It also analyses the impact of competition and liberalisation on telecommunications in Kenya and discusses the legal and regulatory framework for the country's ICT sector.[106]

[104] Department of Innovation, Industry & Regional Development of Victoria (2007). *Emerging ICT Market Strategy: South Africa.*
[105] Ministry of Foreign Affairs of Denmark (2006). *Business Opportunities within the IT and Telecommunication Industry: Kenya.*
[106] Export Processing Zones Authority of Kenya (2005). *Kenya's Information & Communications Technology*.

Kenya's ICT context was further analysed as a case study by the Swedish Department of Empowerment.[107] This report importantly provides background information on Kenya's democratic climate and analyses the government according to the World Bank's "World Governance Indicators". The report describes specific opportunities for ICTs to promote democracy in Kenya while acknowledging the accompanying risks and challenges.

The Zambian Information Communications and Technology sector has grown substantially in recent times, becoming a key factor in the country's economic dispensation. A new ICT Policy was launched in March 2007 and the sector has recorded mentionable developmental strides in its ICT sector. The policy, although deficient in some areas at the time, has given birth to legislative instruments that have potential to spur unprecedented growth in all the ICT sub-sectors.[108]

One of the key objectives of the policy (which promulgates telecommunications, information technology, electronic media and postal services) in terms of developing the Zambian ICT sector, which remains small and underdeveloped, is to develop and implement special tax instruments and incentives to promote the growth of the local ICT production and service industry.[109] *A Country ICT Survey for Zambia* provides information on fixed-line and mobile connectivity in the country and investigates the possibilities of ICTs for development in Zambia.[110]

An important study carried out for the International Institute for Communication and Development (IICD) by Dean L. Mulozi discusses rural access in Zambia including the challenges and opportunities for connectivity and energy.[111] This document is relevant in that it provides a fact-based overview of Internet connectivity in specifically Zambia. It covers technical considerations, existing services and related costs and addresses factors that determine the speed of development of rural connectivity in Zambia. Zambia remains one of the countries with very low Internet usage and the above study explains this phenomenon to some extent.

It is valuable to make general comments about the existing literature on the relevant topics. The viewpoint that information and communication technologies are closely correlated to development has urged many of the developing countries to rush into implementing ICT without assessing and understanding their impacts at the recipient level. This thesis argues through its review of the

[107] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*.
[108] N. Mutumweno (2010). *Zambian ICT Sector Grows*, p.2.
[109] *Ibid*.
[110] O. Hesselmark & P. Esselaar (2003). "A Country ICT Survey for Zambia." Sida.
[111] D.L. Mulozi (2008). *Rural access: Options and Challenges for Connectivity and Energy in Zambia*.

previous studies that many of such ICT initiatives did not consider the localisation and domestication of their implementation. Hence, the researcher aims to learn from the lessons of such initiatives with an attempt to refine an extended framework to investigate ICT impact on national development in the Africa context. Through an interpretive analysis of the previous studies, the researcher explores how to encapsulate many socio-economic aspects of ICT impact, such as mobility restrictions, attitudes towards women, education and religious influences, especially at the community level where such social constraints are critical.

With this thesis the researcher further aims to shed light on the potential there is to utilise the Internet for democracy and presents practical strategies for the achievement of this. Importantly, much of the focus of this research will fall on the inclusion of the grassroots people in the sample countries, in an attempt to describe a platform where all citizens have equal input into the new public spheres.

4. Methodology

The researcher combined content analyses with research interviews conducted with relevant experts. Desktop research was done to cover the theoretical aspects of the Internet for democracy as well as ICT for development as the researcher worked from the assumption that the use of ICTs for development will form part of any coherent use of using the Internet for democracy in the African context. This study's definition and description of democracy was covered in the literature review. It includes definitions by the International Telecommunications Union's (ITU) 2008 report, *Measuring Information and Communication Technology Availability in Villages and Rural Areas* as well as Freedom House's *Freedom in the World Report 2010*. Against this theoretical background all related institutions and organisations, studies and government initiatives were documented in order to map the contributing role players to ICTs for democracy in each sample country. The entire map is included in the Appendix. Certain conclusions were drawn regarding the ICT landscape and the implications of this for the potential of the Internet to strengthen democracy.

In addition, semi-structured research interviews were conducted with several experts on the topic over a 4-week period. This was done on a face-to-face basis, but several interviews had to be conducted via email or telephone due to constraints in resources and time and the fact that two thirds of the interviewees were situated in foreign countries. The rationale was to include these industry leaders' understanding of the opportunities and obstacles for using ICTs and specifically the Internet for democracy in the regions being studied. All interviewees were professionals connected to the ICT industry and were selected carefully and specifically for their knowledge on the topic. Their experience and perception of the current state of affairs as well as how the Internet can strengthen democracy were included in the findings.

The researcher focused on the Internet for development, democracy and ICT infrastructure as the main units of analysis when formulating questions for the interviews. Questions focused on structural and systemic factors that that shape each country's ICT sector and Internet access and usage. The use of the Internet in education was investigated. A question was formulated around the possibility of the Internet to improve education systems as well as to teach Internet skills and digital literacy to learners. The impact of socio-cultural norms and practices and the rural-urban divide on Internet usage were furthermore discussed as elements of the social and cognitive resources discussed in the theoretical framework. Questions on how the Internet is currently being utilised to contribute to the strengthening of democracy in the relevant countries as well as potential for growth in this area was also discussed. In the interest of comparability, the researcher asked the

same questions to each interviewee although the structure of the interviews in some cases caused questions to deviate.

4.1. Limitations

It is important to take note that this study experienced several limitations. Firstly, it must be noted that this is the work of an individual. Time and resources to conduct the research were therefore constrained. The researcher also had limited financial resources which excluded the possibility of a field study. Access to primary information sources was also limited.

5. Technical assessment

The next section will take a comparative look at the material and/or sources of information available for each of the three sample countries. It is important to assess the resources available between the three countries as it within such a comparative assessment that the first similarities and differences between the countries are identified. The researcher will assess the relevant government institutions, research and advocacy organisations to investigate what their contributions are to the field in each country.

From the literature reviewed it can be safely concluded that each country has a very different and unique ICT and democratic context. The measurement of democracy takes place in various ways and takes into account democratic institutions, administrative processes and political parties as well as encouraging initiatives by different actors in civil society, opinion-forming organisations and human rights defenders. Importantly, conclusions drawn from previous studies on democratisation processes underscore the importance of grassroots movements for bringing about social change and democracy. The assimilation of information and communication technologies in development cooperation has the potential to promote democracy as it allows the masses to engage with each other and the system. This includes aspects such as the promotion of freedom of speech, the free flow of information and the promotion of human rights, poverty reduction and social equity.[112]

The primary analysis shows that the South African ICT industry is the most developed and sustained of the three sample countries. This is in line with global indicators that place the country as Africa's most advanced in terms of its ICT infrastructure, accessibility and usage. According to a survey done by Research ICT Africa (RIA) South Africa has the highest fixed line penetration on the continent and with more than 62% of individuals surveyed having a mobile phone, it also has the highest mobile phone expenditure.[113] The researcher found eight institutions and organisations dealing specifically with ICTs and democracy in South Africa. These organisations equally represent the importance of the role of ICTs in e-governance, citizen participation and a democratic media context. Research on the topic however remains scarce and only three research projects with a specific focus on ICT and democracy in South Africa could be identified.

South Africa's promotion of ICTs for democracy stems from its governments' mandate to correct past societal wrongs. The South African Ministry of Information and Communication's strategy is in

[112] Swedish International Development Cooperation Agency (Sida). (2009) *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.13.
[113] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2), p.26.

line with an ICT Empowerment Charter accepted in November 2004. The main goals of the Charter include the correction of societal imbalances in terms of access to information and communication brought about by the country's history of Apartheid[114]. The Charter covers all communication sectors including Internet access and promotes a progressive approach to the distribution of information and communication technologies in the country.[115] The country furthermore has a robust and active communications regulator, the Independent Communications Authority of South Africa (Icasa) that regulates the ethical and legal use of media and communication technologies.

Four independent civil society institutions were found that exist for the continuance and development of the democratic culture in South Africa. These include the National Democratic Institute and the Institute for Democracy in Africa (Idasa). Both institutions promote citizen participation and stand for key democratic principles such as transparent governance and freedom of information. In addition, organisations such as Bridges and the Open Society Foundation for South Africa are focused specifically on how the Internet and new media forms can contribute and stimulate democracy. The latter focuses on the use of ICT to augment the efficiency and efficacy of the South African media industry and the promotion of media freedom and access to information. Public participation in governance through the use of ICT is also a priority. Bridges, an international organisation, promotes the same practices and values while centring on e-governance and the potential of mobile phones as access portals to the Internet.

South Africa has several institutions and organisations focusing purely on ICT in and for development as a crucial part national poverty alleviation and livelihood improvement. Four research papers or institutions were found that scientifically investigate development possibilities through the ICT sector. These include the University of Cape Town's Centre in ICT for Development. Rural connectivity and the lowering of access costs as an imperative step in acquiring equal access for all are top priorities. In addition four capacity building institutions were found that focuses on the same goal. The Meraka Institute is currently running several projects developing human capital such as the Open Source Centre, the Scubuntu project and the Wireless Africa project. At present only 15-20% of South Africans use the Internet.[116]

[114] Derived from the Afrikaans word for "apartness", Apartheid is a term that came into usage in the 1940s and signified the political policy under which the races in South Africa were subject to "separate development". (About.com)

[115] ICT Empowerment Working Group. (2004) *The ICT Charter*, p.7.

[116] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2), p.24-27.

In terms of ICT infrastructure the researcher found South Africa to be the most advanced of the three countries. South Africa's one semi-state telephone company, Telkom, currently monopolises the industry in the country and is the only fixed-line Internet service provider in the country. Telkom remains Africa's largest integrated communications company.[117] Two major mobile service providers were found in the country as well as several smaller providers, assuring a competitive market in this sector. South Africa's mobile service tariffs however remain among the highest in Africa. Competition legislation from the state regulator recently forced mobile service providers to start lowering their tariffs.

The Kenyan government has since the overthrow of the previous government in 2002 been much more willing to respect citizens' civil and political rights. While politically driven civil society organisations do exist in the country they however still need institutional capacity to attain durability and sustainable impact.

However, this new approach brought about by the new government has gradually become visible in the Kenyan ICT sector. ICTs have been placed at the top of the government's development agenda and various projects have been launched to make information and communication technologies available to all citizens with the intention for it to be utilised in support of democratisation. Eight projects were identified that focus on ICT and democracy in Kenya of which the Kenya ICT Action Network (Kictanet) was the most prominent. Five initiatives for the promotion or emphasis of political participation were found and three focused on the democratic media context in the country. At the time this research was conducted all initiatives for ICT and democracy in Kenya were government driven. No civil society institutions or organisations were found promoting democracy through the use of ICTs. Four research projects were found conducted on the topic. This is more than what were found in South Africa, but is still an extremely low number. Research was mostly conducted by international academics and research institutions.

Initiatives for ICT and democracy in Kenya include The East African Marina System (2007-2009), the Digital Villages project and the e-Government Strategy (2004-2009). Results of these projects have shown an opening up of access to rural regions as well as economic growth for which the government has been recognised internationally. Recent ICT legislation introduced focuses particularly on privacy and security issues to make citizens more comfortable and confident to make

[117] Telkom SA Limited (2010). *About Us*. (website)

use of the Internet. Policies identified by the researcher include the Consumer Protection Bill 2007, the Kenya ICT Bill 2007 and the Electronic Transactions Bill.[118]

ICTs for development in Kenya have been equally poorly researched. Only two research projects on the topic were found, both conducted by international research institutions. The only capacity building project found in the country is being conducted by Infodev, the Information for Development Program, also an international initiative that focuses on the development of women's ICT skills.

According to the RIA survey, individual Internet use in Kenya ranks along with South Africa, as the highest in Africa at 15%. The mobile sector in Kenya is rapidly expanding with a penetration rate of 32.25% (in 2008).[119] The number of land-line subscriber is however declining and Telkom Kenya currently only has 330 000 lines, with a tele-density of 0.16% in rural regions and 4% in urbanised regions. This remains troublesome. Three mobile service providers were notated by the researcher of which Zain and Safaricom remain the largest. Mobile services however continue to be expensive despite the availability of three new fibre optic cables in the country.

Zambia is by far the least developed of the three countries in terms of both its democracy as well as its ICT sector. Only 3% of Zambians make use of the Internet. Renewed emphasis has recently been placed on the role of ICTs in the overall economic and political development of the country. The Department of Transport and Communication in 2009 conducted a study into how and where the ICT sector can be improved and how an improved ICT sector can promote sustained national development. A single study was found titled "ICTs and the Civil Society as Challengers to the Ruling Elite in Africa".

The researcher found no NGOs with an ICT focus within Zambia's framework of NGOCC, the National NGO Coordination Committee. The NGOCC's energies are mainly geared towards gender issues, women empowerment and political activities. However, the NGOCC could play a key role in ICT for development advocacy, given its target groups of women and youth.[120]

Zambia's regulatory system acts in line with the government's ICT for development goals. Markets have been opened and the regulating authority is acting with consumers to improve service delivery with the goal being for ICTs to play a better defined role in the country's development. License fees

[118] Swedish International Development Cooperation Agency (Sida) (2009). *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.46.
[119] A. Gillwald & C. Stork (2008). "ICT access and usage in Africa" in *Toward Evidence-based ICT Policy and Regulation* 1(2), p.24-27.
[120] *Ibid.*

have furthermore been reduced to allow more stakeholders into the sector and to create a friendlier market. While steps have been taken to liberalise Zambia's telecommunications sector, the process is ongoing and the sector remains monopolised.[121] One study was conducted by the Zambian government on ICTs for development. Research available on the topic is extremely limited.

Mobile telephony in Zambia is easily accessible to the majority of the country and estimates are that about 25% of the population has mobile access, with penetration rapidly increasing. The use of mobile Internet is gaining momentum although this is restricted to receiving email rather than browsing as costs are relatively high when one compares with the rates that are charged for dial up access, still the cheapest Internet service on offer. State-owned Zamtel remains the country's only fixed-line telecommunications service provider and own several mobile service providers including Cell Z.

In most local Zambian communities, telecentres and Internet cafés have become the key means for public ICT access. Those who cannot personally afford ICT access can do so by buying such services, through membership fees at a telecentre, or by using Internet access in the work environment. Online material is largely accessed by those who have Internet connectivity through their mobiles or computers.

Most ICT advocacy efforts in Zambia have focused on raising ICT awareness and have been undertaken by the private sector, such as eBrain (an ICT advocacy forum), the Computer Society of Zambia, and the Media and ICT's Network Development (MIND). These have had some impact in that the government and the regulator have taken action to reduce taxes and duties on telecommunications equipment. This has not however resulted in an noticeable increase in ICT penetration and this effort has mainly assisted the market players rather than the underserved masses who are still not benefiting from what ICT has to offer. One of the reasons for this is the high cost of peripherals and high access rates[122]

It is clear from the primary analysis and technical assessment of the three countries' ICT sectors that there is great room for improvement in all three industries. While South Africa and Kenya are relatively developed, Zambia still needs strong support to expand its ICT sector, including its infrastructure and policy frameworks as well as the facilitation of the uptake and effective use of ICTs by all people.

[121] J. Munsaka (2009). *ICT4D: Opportunities and Challenges in Zambia*, p.9.
[122] *Ibid*, p.10.

Access to and effective use of ICTs in the three countries is uneven across the rural/urban divide; between better educated men (with better access to resources) and lesser educated and often non-literate women; and between the rich and the poor. Across both urban and rural populations, the predominant tool for communication is the mobile phone, while access to the Internet is largely limited to urban areas particularly in Kenya and Zambia. The high cost of international Internet connectivity means that even within urban areas Internet connectivity is regarded a privilege. The slow growth of Internet uptake and usage is also attributable to limited infrastructure, including fibre-optic cable and electricity in rural areas; low Internet usage by government, schools, and health and agricultural institutions; low ICT literacy; a lack of local content on the Internet; and low income levels.[123]

However, the region is poised to gain access to broadband fibre, with a number of projects underway to link these countries to undersea fibre-optic cables. Broadband connectivity will be more available in the region within the next two years, and could become more affordable to the broader population with the right policy frameworks and regulatory measures in place. In all these countries, access to broadband must be made a national priority – to reach even the smallest village – in order that the most marginalised geographic spaces and social groups can participate in national debate and deliberation on issues and decisions that impact on their day to day life.[124]

The technical assessment has led the researcher to several further conclusions. Research on ICT for democracy in the three countries remains extremely limited. International research institutions, mainly conduct what research there is. This is indicative of Africa's late entry into and acceptance of digital communications technology. It is however clear that the realisation of the importance of ICTs have struck and several efforts by the governments are being made to improve ICT access. These efforts have been accompanied by initiatives to promote national development with the use of ICTs. Despite South Africa having the highest Internet penetration, Kenya hosts the most initiatives for the use of ICTs for development as well as democracy. In Zambia, civil society has yet to contribute an effort to improve ICT usage. The little efforts being made are supported by international institutions and private business.

[123] Swedish International Development Cooperation Agency (Sida) (2009). *ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment*, p.11.
[124] *Ibid.*

6. Research Interview Analysis

In the next section the researcher analyses information retrieved during interviews with specialists in the field. Comparisons will be drawn between the sample countries, South Africa, Kenya and Zambia for every sub-theme explored during the interviews. The specialists were selected for their specific knowledge on ICTs for development (and education), ICTs for democracy and ICT infrastructure from a pool of researchers, ICT consultants, government departments and private sector companies. The purpose of the interviews was to extract the most accurate firsthand information on the topic without a field study. The interviewees all either have experience in the ICT sector or have studied the topic extensively. Each interviewee was interviewed on only one of the three countries. The sample of specialists is a purposive non-probability sample that cannot be generalised, but meets the criteria for specialists selected in each sample country.

The interview questions were steadily developed out of the main research questions and with strong theoretical foundations. Questions were shaped around Techatassanasoontorn's Integrated Self-Determination and Self-Efficacy Theories of ICT Training and Use.[125] This was discussed at length in the theoretical framework and determines that material, social as well as cognitive resources are necessary for any person to become an active ICT user (ICT being inclusive of the Internet). Material resources refer to the availability of hardware, software, applications, networks and the usability of ICT devices and applications.[126] For the purpose of this study, this includes the financial capacity to make use of the Internet. On a collective level, this necessitates available ICT infrastructure. Social resources, according to Techatassanasoontorn, include social support that can provide assistance in using and managing material resources. This includes projects and initiatives from government, civil society and individuals. Questions in this regard were focused specifically on educational projects. Cognitive resources including psychological factors shape motivation, perceptions, and attitudes towards technology and usage behaviour, all of which, in turn, predict usage intention. In reaction to several other theories, the researcher added a question about the influence of socio-cultural norms and values on Internet usage.

The main focus of the interview questions was threefold:

1. What factors are currently shaping Internet usage?
2. What is currently being done to promote Internet usage?

[125] A. Techatassanasoontorn (2008). The Integrated Self-Determination and Self-Efficacy Theories of ICT Training and Use: The Case of the Socio-Economically Disadvantaged, p.4.
[126] C. Fuchs & E. Horak (2006). "Africa and the Digital Divide" in *Telematics and Informatics 25(2008)*, p.101.

3. What more can be done to promote Internet usage for the strengthening of democracy?

The first two questions were aimed at getting comprehensive insight into the current situation regarding infrastructure in each country, i.e. the availability of material resources. In the first question interviewees were asked to describe the infrastructural factors shaping the country's Internet usage, followed by a question about the limitations to increased Internet usage in the country. A third question about whether the benefits of the Internet are currently reaching the grassroots people were added in support of the researcher's hypothesis that active democracy requires the participation of all citizens.

In a second part of the interview, the researcher enquired about government efforts to promote Internet usage. This would be categorised as the social resources. A further question focused specifically on the existence and development of educational projects so as to educate scholars/children (a) how to make use of ICTs and (b) about the important role ICTs and specifically the Internet can play in their lives.

The researcher added a question about whether socio-cultural norms and practices have any influence on Internet usage in the African context. The question was meant to explore the topic of cognitive resources for the effective usage of the Internet.

Finally, the researcher explored with the interviewee his or her opinion about whether democracy can be strengthened through creating a more participatory public sphere through the use of the Internet. The prerequisites for this were also discussed.

6.1. Providing Internet Access

An explorative opening question asked interviewees to describe the unique infrastructural factors that shape Internet usage in the relevant country. Zambian interviewees were in consensus that the recent liberalisation of the Zambian communications market and Internet sub-sector that saw the opening up of the so-called "international gateway" is at present the most defining trait of the ICT sector in the country. This has provided stakeholders with the opportunity for vast investment into the sector to join MTN, Vodacom and Airtel as the main stakeholders in the market. Zambia's large youth population constitutes a lucrative mobile market and according to Mr Chilufya Musosha, an IT officer with more than eight years' ICT experience, it is estimated that every household in Zambia

owns at least one mobile phone and this statistic is constantly increasing in urban areas.[127] However, specifically mobile service providers have been limited to three for the next five years after government estimated that the current levels of market demand for mobile service could not sustain more competition.[128] While the full utilisation of mobile phones is still under scrutiny, interviewees agreed that the governing party have embraced the technology and they believe that the trend can only be upwards.

Internet Service Providers have also started forming alliances that have seen more areas of Zambia being connected. In 2009 the government reduced taxes on telecommunication equipment which stimulate access. The state-owned telecommunications company Zamtel was privatised, giving the market access to technology that had previously been privy to government. The new LAP Green Networks, a Libyan telecommunications company, has invested over $1 billion in fibre-optic technology. This will see about 80% of Zambia having Internet access via fibre.[129]

The industry has also started connecting to the main subterranean fiber connections (South Africa, Namibia and Tanzania). This has given the consumer more possible solutions to redundancy. The mostly flat terrain and the land locked nature of the country facilitates relatively easy infrastructure roll out. It is important to note that the government has several ongoing road network and rural electrification schemes that contributes to Internet access in the country.[130]

In comparison, Kenya's liberalization process that began in 1999 encouraged competition and moved Internet services from State controlled monopoly to the private sector. The private sector immediately identified ICT as a critical economic growth sector and started investing in various infrastructure projects especially in the mobile sector that ended up lowering entry barriers. Efficient policies and good costing of products have been major contributing factors to growing Internet usage in Kenya. The private sector together with the civil society played an important role in pushing for correct ICT policies. This ensured a sector where there is not only sufficient infrastructure and policies, but also a strong private sector to provide services to customers.[131] The cost of Internet was reduced significantly and young people started increasingly more cyber cafes. In a few years, the mobile user base grew from 2000 users to almost 2 million. Today, Kenya has

[127] C. Musosha. *Email interview*. 8 December 2010.
[128] E.K. Lwao. *Email interview*. 5 December 2010.

[129] C. Musosha. *Email interview*. 8 December 2010.
[130] M. Chilepa. *Email interview*. 18 November 2010.
[131] M. Muiruri. *Email interview*. 2 December 2010.

almost 20 million mobile subscribers and the youth use mobile phones for Internet access. Kenya managed to create a very balanced environment from which users and providers could benefit.[132]

At present, 85% of the population have access to a mobile signal. Geographically however, the signal reaches about 35% of the population. With the north of the country being scarcely populated, it is not always profitable for mobile operators to roll out infrastructure and it is not economically viable for the mobile operators to cover certain areas.[133]

In South Africa the situation is somewhat different. Over 90% of the population is covered by a mobile signal but only 15% of citizens make use of the Internet. While in Zambia and Kenya, this situation is exacerbated by the geographical layout and spread of the population, in South Africa it is the product of deep class divisions in society and the financial inability of citizens to participate in Internet usage. While growth in mobile access has greatly increased voice access, there has been little policy intervention through the creation of more competitive markets, or effective regulation of pricing, to address usage issues. Pricing remains a major barrier to the access and usage of both fixed-line and mobile phone services. In addition, the cost of equipment such as Internet-enabled mobile phones and personal computers is prohibitively high as is the cost of accessing services, which has limited the uptake of data services.[134] Recently installed policies to bring down prices to support consumers will take effect in 2010. Telkom remains the only fixed line Internet service provider, monopolising the market.

However, the 15% of South Africans who do use the Internet are mostly active users. The youth is accessing the Internet increasingly through mobile phones for social interaction. New services are making their way to citizens through the Internet, i.e government services, ID application tracking and many others such as applications to check matric results, for education and learning and even personalised health information services. More and more services either by government or private sector are now making their way through cell phones. This is becoming a trend, for example reservation of bus tickets and checking for flights on line.[135]

With the aforementioned factors shaping each country's ICT sector and Internet usage, it becomes imperative to ask how the Internet can be brought to the grassroots people in each country in order

[132] M. Muiruri. *Email interview*. 2 December 2010.
[133] J.N. Waweru. *Interview*. 10 November 2010.
[134] A. Levin. *Interview*. 1 December 2010.
[135] T. Mosieu. *Email interview*. 5 January 2011.

to create an active public sphere. Only by reaching the grassroots of communities, will the digital divide in Africa further be crossed as the Internet has become "a requisite for overcoming inequality in a society which dominant functions and social groups are increasingly organized around the Internet".[136]

As hypothesised in the theoretical framework of this study, the challenge for democracy in these African countries, lie in increasing all citizens' capacity and reach to use the public and private space to engage and influence their governments' decision-making and democratic practice. At present, all three sample countries are unable to provide their citizens with this. In Zambia there remains a big gap between the investments being made in the ICT sector and the benefits reaching the people. Despite the relative success of Universal Access initiatives setting up telecentres in rural areas, the visibly high cost of last mile solutions that Internet Service Providers still charge people, prevent better usage.[137] Access to affordable hardware is still beyond the reach of many. The lack of critical masses subscribing to Internet services leaves Zambia one of the most expensive countries for accessing the Internet.[138]

In Kenya, Internet cafes can be found in very remote rural places but the cost of Internet similarly remains high. With the subterranean fibre-optic cables reaching Kenya, the situation should however change. Research institutions focused on Kenya, have emphasised an urgent need to put policies in place to allow rural areas to participate in the digitization of government records, as a strategy of attracting the private sector's attention to the rural areas. Outsourcing strategies are further being discussed for potential for sustainable ICT growth in rural areas.[139] Government projects to encourage Internet usage are Pasha and the Digital Villages project wherein government is building computer centres in rural villages with the hope that from here Internet usage will spread. A bigger demand for Internet connection in these areas, it will also attract banks and the mobile service providers.[140]

South Africa, while to a certain extent having better services to consumers, continues to have only 15-20% Internet usage. This goes hand in hand with a 30% unemployment figure.[141]

[136] M. Castells (2002). *The Rise of the Network Society*, p.248.
[137] E.K. Lwao. *Email interview*. 5 December 2010.
[138] C. Musosha. *Email interview*. 8 December 2010.
[139] M. Muiruri. *Email interview*. 2 December 2010.
[140] J.N. Waweru. *Interview*. 10 November 2010.
[141] S. Akoojee. *Telephone interview*. 14 December 2010.

6.2. The Internet for Democracy

While this study remains firmly grounded in the reality of the three African countries' ICT sectors as well as their democratic contexts, it is important to note that the focus of the investigation is the future potential there is for the Internet to strengthen and stimulate the respective democracies. With the advantages and limitations of each country discussed, the next step is therefore to look at how the Internet is currently being used for democracy in each country as well as what the potential for growth is. Internet usage for the improvement of education as well as improving Internet skills through education remains a vital part of ICTs for development. Democracy, in turn, cannot be sustained without the continuous national development of any country and a short section will therefore be devoted to the importance of development through education.

Several projects to improve education through the Internet and provide information to students are ongoing in Zambia. These include E-brain and the Global Teenager Project. Both these projects are run by the International Institute for Communication and Development (IICD). Recently the Sector Advisory Group for ICT to the government also proposed a number of plans that start from school and extend to government departments in a bid to improve efficiency in the public service. Discussions about the execution of these plans are currently ongoing.[142] Specialists however agree that there is still a lot to be done to facilitate better education in Zambia and that the Internet has a definite role to play in this. Proposed initiatives include making available educational resource material on the Internet which students can access to lower the individual costs of study material for students as well as the provision of e-learning in schools.[143]

In Kenya most institutions of higher learning have access to Internet in most parts of the country under the umbrella of the Kenya Education Network (KENET). This access has enabled students to improve on their research, establish and maintain links with other students worldwide, which is critical in ensuring competitive education. This access has also enabled students to have a broad perspective on issues of study.[144] The greatest hindrance to Internet in the education sector once again remains the cost of bandwidth and availability of facilities especially in the public institutions. With the landing of the two undersea cables in Kenya, the hope is that public institutions will afford to provide more wireless access services. Lowering the cost of computers would also greatly assist students to invest in laptops through creative ways where a team of five students can purchase one laptop for group work. The government currently runs a project that encourages university students

[142] C. Musosha. *Email interview*. 8 December 2010.
[143] M. Chilepa. *Email interview*. 18 November 2010.
[144] M. Muiruri. *Email interview*. 2 December 2010.

to make more use of the Internet by supporting universities to sell computers to students on loans. Partnerships with big IT companies could also help in providing the necessary infrastructure and equipment to improve access to Internet especially in the public institutions of higher learning located in rural areas.[145]

As far as secondary and primary school learning is concerned, a great divide remains between private and public institutions. Most private schools have the funds to install Internet and provide decent computer labs. However, the public schools cannot afford to provide such services, which is a problem that needs to be addressed as a majority of Kenyan children attend public schools.

Currently, Teacher Training Institutes in the country are providing ICT training to all the teachers prior to deploying them to schools, to equip them with tools for empowering students. Availability of computers and Internet must be complemented with the necessary capacity to train in the public schools, and the new Government policy of providing ICT training to teachers is a great way of providing this capacity.

South Africa possesses more than a decade of accumulated experience from its wide range of projects and programmes pioneered by a spectrum of communities, the private sector, civil society, donors, development, and government agencies.[146] A variety of tested models on ICT access, digital content development, teacher training and professional development, optimal usage, partnerships, and resource mobilisation have encouraged significant learning among innovators, practitioners, and policymakers. The scale of all these interventions to date has led to more than 22% computer penetration in all public schools.[147] All tertiary institutions also have some form of ICT access, ICT research and/or ICT teaching programmes. While South Africa has a policy on e-education only for the schools and Further Education and Training (FET) college sectors, herein too lay animated debate on the optimal ways to implement the policy.

However, major challenges still need to be overcome, such as the lack of a comprehensive policy on ICTs in education that covers all sectors in education, the continued need for leadership and co-ordination of various initiatives, the promotion of enhanced learning through optimal usage of the technologies, and, above all, the need to demonstrate the value of the investment in ICTs through improved performance of learners and teachers and improved employability in the changing labour market.

[145] M. Muiruri. *Email interview*. 2 December 2010.
[146] A. Levin. *Interview*. 1 December 2010.
[147] S. Isaacs (2007). *ICT in Education in South Africa*, p.3.

It is relevant to note that working from the hypothesis that the Internet can stimulate democracy by empowering individuals, using the Internet in and for education, forms the foundation of a digitally literate society. It is therefore important that each individual should be able to acquire the necessary skills to effectively use the Internet. Access to information is a powerful tool for democracy as it gives citizens the opportunity to make informed decisions that are based on a wider variety of opinions.

The Zambian case for ICTs for democracy is an interesting one. Specialist interviewees all agreed that while the Internet can be a powerful tool in the development and strengthening of a country's democracy in general, there is little potential for the Internet to stimulate democracy in Zambia. One argument was that most leaders have little appreciation of the value the Internet can bring in socially uplifting the Zambian people, hence the sluggish approach to addressing ICT issues. To many the Internet remains a mysterious tool. Another opinion was that democracy may not necessarily be strengthened due to increased Internet access in any way in the near future because of the extremely low level of Internet access at present.[148] Furthermore, computer literacy and use within the public sector is not very robust and the inclination to make use of the Internet simply does not exist. An awareness of the important role the Internet can play in the democratic context of Zambia does exist among the researchers interviewed. The perception that government does not grasp the importance of the Internet for democracy does furthermore not extend to their understanding of ICTs for development, as it can clearly be seen that government is investing a lot of resources in development and education projects.

Contrastingly, Kenyan specialist interviewees were positive that the Internet already plays a significant role in the democracy of the country. Two interviewees referred to the role of the Internet during elections in Kenya. A Kenyan website named Ushahidi.com was used in 2007 to communicate and relay information during the tumultuous national elections. The site functions as a social network and spread information nationally and internationally about the violence that erupted during the elections, connecting people and allowing them full access to information concerning the political climate in the country at the time. The website still functions as a popular social network in Kenya.[149]

Another interviewee pointed out that to a large extent it is very hard to manipulate a citizen who has the ability to counter check information. During election periods, politicians across the board manipulate the citizens who have no access to information. Unfortunately most of them are fed and

[148] E.K. Lwao. *Email interview*. 5 December 2010.
[149] J.N. Waweru. *Interview*. 10 November 2010.

believe half truths that cannot be verified. Most of these citizens are young and unemployed either in urban slums or rural areas that are not well served with infrastructure to facilitate Internet access. They're the most disadvantaged and vulnerable and are usually drawn in conflicts that empower politicians to ascend to high offices. Providing Internet access in the slums and rural areas, and identifying champions in these target populations will play a big role in promoting democracy as the Kenyan youth can verify any claims by politicians by visiting blogs or merely reading different opinions from fellow citizens.[150]

In Kenya Internet was started by the people returning from the West where they had to utilise the Internet for their studies. Additional research indicated that those working with international organizations were more likely to use Internet through work exposure than those who were working with local organizations. Most international organisations are found in Nairobi and other urban areas so it goes without say that those in rural areas have been at a disadvantage based on limited exposure. Some cultural norms also suggest that the Internet has corrupted the youth through exposure to wrong cultures and there is some hesitance to utilise the tool. This is however slowly disappearing as more and more students get exposure in schools.

Reactions from South African interviewees were mixed. Pessimism about the Internet's role in democracy was founded in the fact that penetration and access, if not usage, is already high, without it contributing to the democracy. A lack of government initiative and motivation were also cited as reasons for the lack of potential. Even though the Internet is widely available in the country, there is not enough initiative from government, firstly, for the infrastructure to reach the masses of poor South African citizens, and secondly, for the citizens to acquire the necessary skills and training to use the Internet efficiently.[151] Additionally, emphasis was placed on socio-cultural norms and practices as tremendous barriers to Internet usage. Learners and students' lack of inclination toward mathematics and science subjects and traditional cultural practices leads them away from using technology, a problem specific to South Africa.[152]

However, in contrast to the above, others do believe that there is tremendous potential for the Internet to strengthen and improve democracy in South Africa, specifically because of the country's higher access. Government and political parties have made extensive use of the Internet for political campaigns, ministerial websites and the distribution of information and general e-governance practices. A strong and deliberate effort to bring the Internet to all citizens can only be driven by government. The country's robust and independent news media sector furthermore contributes to

[150] M. Muiruri. *Email interview*. 2 December 2010.
[151] S. Akoojee. *Email interview*. 14 December 2010.
[152] A. Levin. *Interview*. 1 December 2010.

efficient and transparent governance. Citizen journalism through blogs and social networks facilitate conversation and contribute to a healthy public sphere in South Africa.

7. Conclusion and Recommendations

The purpose of this study was to investigate the potential and possibilities for the Internet to be utilised in improving democracy in African countries. The study contains a theoretical discussion of all relevant areas concerning ICT infrastructure, ICTs and democracy and ICTs and development with special investigation into ICTs in education. In addition the study includes a description and analysis of the limitations, challenges and possibilities for promoting democracy through the Internet in South Africa, Kenya and Zambia.

The theoretical overview highlights the importance of public debate and deliberation on political choices in a feasible public sphere for the full achievement of a democratic culture. It is of particular significance to create the capacity for public deliberation among a cross-section of civil society actors in order to cultivate an open conversational space in which social groups with diverse interests are able to hold government accountable. A culture of transparency should be cultivated in contrast to being threatened by critical debate. Central to creating a culture of accountability and transparency is the availability of public information. The task of providing this falls with the government.

From the technical assessment several findings were drawn. While access to infrastructure remains a significant challenge, existing infrastructure is substantial enough to render the Internet a powerful facilitator and tool to promote democracy. With access to mobile phones high and increasing, access to the Internet will increase accordingly in all three countries. Several fibre-optic cables are underway or already in use in countries across Africa, should provide widely available broadband access within the next two years. This should lead to connection costs coming down.

South Africa's liberal constitution assures the conservation of its democracy, although severe poverty withholds a large part of the population from certain political and human rights. Several civil society organisations are focused on ICTs for democracy, promoting the use of the Internet for better access to information, more accessible channels of communications to government and general public conversation. However, the level of awareness about the importance and potential of the Internet to strengthen democracy is very low; equally so in government as amongst citizens.

After two decades of political instability Kenya is slowly heading towards a consolidated democracy. The role ICTs are playing in this process is negligible. Importantly however, the Kenyan government has recently given priority to ICTs for the promotion of democracy in recognition of the important

role it can play. Several projects have been launched in support of government objectives to enable all citizens to be part of a political and public sphere. As in South Africa, ICTs for democracy in Kenya have been poorly researched. This is partly due to unawareness about the importance of the topic, as well as the relative novelty of the field of study.

In Zambia the situation is more complicated. Internet usage in Zambia remains extremely low despite access being available. This creates an impediment for the use thereof for democratic purposes. Reflective of this, no civil society organisations exist that are focused on ICTs for democracy. Research about the topic focused specifically on Zambia is also minimal. While government have launched some projects, a lack of awareness about the potential of the Internet strains efforts to bring the Internet to more citizens.

From the interviews conducted with specialists on the topic, a more detailed summary of the general findings of the study could be constructed.

In all three countries there has recently been a definite shift toward the accommodation of information and communication technology. This includes the liberalisation of markets as well as government initiatives to bring access to all citizens.

Mobile phones are the leading medium for accessing the Internet. However, mobile phone usage should not be regarded similar to Internet access through mobile phones as many citizens do not use their mobile phones to connect to the Internet. It is therefore important not to overestimate the number of people accessing the Internet through their mobile phones.

Efficient policies and good costing of products can be major contributing factors to growing Internet usage. Such an impact could be seen in Kenya.

The geographical layout of all three countries influences Internet usage. Rural areas are less likely to be covered by an Internet signal than urban countries. Incentives in the private sector to cover these areas are low as estimated profits are marginal.

Lack of funding in the public education system in all three countries inhibits the use of ICTs in public schools. Teachers' lack of skills exacerbates the problem and not nearly enough children in public schools have access to the material or social resources to be active, purposeful users of the Internet.

However, the area governments have been most active in, has been in developing schools' ability to supply learners with access and skills and the number of projects aimed at ICTs in education is growing constantly. Almost all tertiary education institutions, especially in Kenya and South Africa, have access to the Internet.

There is furthermore clearly a role for the Internet to play in assisting in the consolidation and growth of these democracies even though Zambian experts were pessimistic about this. Significant social change such as greater use of the Internet for the stimulation of democracy can only be driven from the grassroots level and successful campaigns have been driven during the 2007 Kenyan elections.

The use of the Internet for personal, micro-economic affairs has increased over the last five years which has contributed greatly to the development of all three nations. Very little of this activity has been specifically political, but as argued earlier, democracy cannot be successful without continuous national development.

The great majority of ICT applications in Africa are imported and are developed in developed countries. It is imperative that this technology is adapted to indigenous knowledge and local cultures if all citizens are to benefit from using the Internet. Past projects have shown people in Kenya and South African react positively to applications catering to their specific needs.

Kenya is the only country that has used the Internet in a political campaign during the 2007 national elections. Millions of Kenyans expressed their opinions about the government and elections on the social network website Ushahidi.com. This mass participation in the public debate put tremendous pressure on state officials not only by bringing international attention to the elections, but by demanding accommodation by the state.

In South Africa election campaigns on the Internet are becoming increasingly prevalent, although support rallied in this way has been only marginally influential.

After the careful consideration of the theoretical starting point and findings as well as the findings from the interviews conducted with specialists in the field and the technical assessment, the researcher was able to make several recommendations for the utilisation of the Internet to stimulate and strengthen democracy in South Africa, Kenya and Zambia.

Firstly, it is imperative that awareness is raised about the important possibility for the Internet to improve democracy. This campaign should be driven by government and state officials as well as among citizens. Both groups need a particular understanding and appreciation for the opportunities presented by the Internet not excluding the potential there is for social and economic uplifting in the developing contexts of the countries. Importantly, concepts and practices such as government accountability and transparency, public debate and participatory democracy need to be embedded in the foundations of citizens' upbringing. A thorough understanding of this goal needs to be there before any progress will be made towards it. Democratic values, norms and practices need to be instilled through the education system. This can also be achieved through Internet-facilitated civic education projects.

Secondly, the capacity and leadership of institutions responsible for advancing democracy should be strengthened. How this can be done constitutes an entirely separate study. What can be said however, is that political capacity for providing efficient policies and oversight to promote good governance, is essential. Emphasis should be placed on including all people, especially at grassroots level. Additionally, an enabling policy and regulatory framework should be put in place. Such policies already exist in all three countries, but Zambia could benefit from future reforms for better efficiency. Policies that allow affordable access to the Internet through both mobile phones and computers will lead to citizens being better equipped to hold government accountable and to participate in democratic practices. A reduction in connection costs is crucial to increased Internet usage and with the arrival of the fibre-optic cables, this is a feasibly possibility. Freedom of expression and information should furthermore be guaranteed, although this is already a prerequisite for democracy and not only for the effective use of the Internet for this purpose.

The researcher would further recommend that ICTs be integrated in the national education system and the funds be made available to do so as it justifies being a top priority. Citizens need to acquire the necessary skills to use the Internet at a young age while simultaneously learning that using the Internet for democratic purposes can contribute to their lives in a positive manner. All three sample countries already have several e-education projects running, but the current purpose of these projects remain the reaching of development goals. It should be possible to incorporate initiatives to promote the use of the Internet for democracy alongside or within these projects.

Access to information and the development of local content is essential to promoting the Internet for democracy in the three African countries. In South Africa access to information is currently under discussion as the legislator is in the process of shaping a new Protection of Information Bill. It is however the conclusion of the researcher that public access to government and state information is crucial in ensuring accountable and transparent representation. The development of local content is furthermore of the utmost importance in enticing citizens to make use of the Internet. After the issue of cultural barriers was raised in several interviews, the researcher came to the conclusion that even though there is no statistic supporting this claim, Internet users can only benefit from digital content developed specifically to cater to their specific needs. This may require deviating from the generic Western models of presenting digital content and promoting Internet projects.

Finally the fact remains that African countries continue to be unique in their interpretation of democratic principles. In addition, being citizens of developing countries, South Africans, Kenyans and Zambians have unique social, political, economic and cultural needs that naturally differ from citizens in developed nations. Promoting the Internet for democracy in these African contexts should be approached with this in mind. This includes all initiatives in e-government, providing access to information, creating public e-debates and citizen participation through existing media.

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Appendix A

Interviewees

Akoojee, S. [Co-author of *ICT Skills at the Intermediate Level in South Africa*]. Telephone interview. 14 December 2010.

Chilepa, M. [Member of Diplo Governance Internet Community in Zambia]. Email interview. 18 November 2010.

Levin, A. [Chairman of Internet Society in South Africa]. Interview. 1 December 2010.

Lwao, E.K. [Research Officer for Zambia Information and Communications Technology Authority]. Email interview. 5 December 2010.

Musosha, C. [IT Officer at Family Health International]. Email interview .8 December 2010.

Mosieu, T. [Senior Project Manager at Meraka Institute in South Africa]. Email interview. 4 January 2011.

Muiruri, M. [President and CEO of Afrika ICT Strategies Inc.]. Email interview. 2 December 2010.

Waweru, J.N. [Chairman of MIS Solution Ltd Consultancy in Kenya]. Interview. 10 November 2010. Cape Town.

Appendix B

Institution/ Authors	Topic	URL/Source	Approach	Project	Country	Subthemes
DEMOCRACY						
Independent Communications Authority of South Africa (Icasa)	Democratic use of media	http://www.icasa.org.za	Regulation		South Africa	Regulation of services Affordable services of a high quality
Open Society Foundation for South Africa	Create sustainable media environment	http://www.osf.o-rg.za/home/	Grant generating	Media Programme Human rights and governance programme	South Africa	Promotion of media freedoms, access to information and advocacy Use of ICT to enhance the efficiency and efficacy of the media Good governance Public participation in governance Access to information
State Information Technology Agency (Sita)	Consolidate and coordinate state information and technology resources	http://www.sita.co.za/	Research/ Advocacy	Batho Pele Gateway Specialised Skills	South Africa	IT to support the delivery of e-Government services to all citizens Facilitating access to all information about, and services provided by provision of specialised ICT skills to government
Bridges	Promote effective use of (ICT) in the developing world for meaningful purposes	www.bridges.org.za	Policy-making Active engagement		South Africa	Cell phones and handheld devices Digital divide E-Democracy E-Government E-Literacy and education E-Readiness assessment Entrepreneurship Financing ICT-based development Free and open source software ICT policy Millennium Development Goals Public and equal access

						Refurbished computers Wireless, WiFi and WiMax
National Democratic Institute	Mobilisation of the Internet for democracy	http://www.ndi.org/democracy_and_technology	Capacity building	Project Vote	South Africa	Promote citizen advocacy Government transparency and accountability Access to information and technology Elections and political processes Citizen participation
Institute for Democracy in Africa (Idasa)	Effective democracy	http://www.idasa.org.za	Develop-ment		South Africa	Citizen participation Political governance Elections and Electoral Systems
Ministry of Information and Communication	Information and Communication Technology	http://www.information.go.ke/	Policy-making		Kenya	Dissemination of Public Information, Development of National Communications Capacity
Kenya ICT Action Network (Kictanet)	Reform in ICT sector	http://www.kictanet.or.ke/	Govern-ment/ Capacity-building		Kenya	Improve livelihoods Information accessibility and affordability Effectiveness of ICT policy process Facilitate effective dissemination channels regarding the ICT policy and regulatory processes
Kenya ICT Board	Development of information-based society	http://www.ict.go.ke/	Advocacy/ Policy-making	Digital Villages Project	Kenya	Improving government operations Employment creation Creation of network facilities in rural areas Skill enhancement Affordable access
Kenya e-Government Strategy	e-Government		Capacity Building		Kenya	e-Government (modernisation of government structures and communications) Citizen participation Efficient governance
Department of Transport and Communication	ICT4D Challenges and Opportunities for Zambia		Develop-ment		Zambia	Infrastructure ICT access and use

						ICT priorities and actions
Lyons & Lyons 1999	Challenges posed by ICTs for parliamentary democracy in South Africa	Parliamentary Affairs Vol 52 Issue 3	Research		South Africa	Participatory democracy Information dissemination
Ayogu, M.D & Bayat, F. 2010	ICT governance: S outh Africa	Telecommunications Policy, May2010, Vol. 34 Issue 4, p244-247, 4	Research		South Africa	Formal ICT governance structures Policy oversight
Goldenberg, D. 2008	Grassroots women's leadership and 'deepening demo cracy': the Huairou Commission's Local to Local Dialogue replication	Gender & Development, Nov2008, Vol. 16 Issue 3, p.443-456, 14p	Research		Kenya	Women and democracy Rural development Citizen participation
Rodwing R.M. & Shadrack, W.O. 2009	Kenya: the struggle for democracy		Research		Kenya	
Mudhai. O.F. 2004	ICTs and the Civil Society as Challengers to the Ruling Elite in Africa	Conference Papers -- International Studies Association, 2004 Annual Meeting, Montreal, Cana, p1-20, 20p	Research		Zambia/ Kenya	ICT and Democratisation Balance of power
Swedish Department of Empowerment (Sida)	ICT's for Democracy. Information and Communication Technologies for the Enhancement of Democracy – with a Focus on Empowerment		Research		Kenya	
DEVELOPMENT						
Munsaka, J. 2009	ICT4D: Opportunities and Challenges in Zambia	Thetha: The Sangonet regional ICT discussion forum project	Research		Zambia	
International Institute for Communication and Development (IICD)	ICT for Development	www.iicd.org.za	Develop-ment	E-brain Information Dispatch Global Teenager Project Capacity Developme nt	Zambia	Knowledge sharing Media and development ICT in education
Women's Information for Development Network	Zambia ICT policy	http://www.widnet.org.zm	Develop-ment		Zambia	Accelerated wealth Job creation Rural development
NEPAD e-Africa Commission	Development of ICT sector	http://www.eafricacommission.org/	Develop-ment	Nepad e-schools Initiative NEPAD ICT Broadband Infrastructu re Network	South Africa	Infrastructure development ICT skills Economic development Global connectivity Promoting conditions for

						Africa to be an equal and active participant in the Global Information Society
Meraka Institute	Development and globalisation focusing on human capital	http://www.meraka.org.za/index.htm	Technology Research Technology	Open Source Centre Scubuntu Wireless Africa	South Africa	ICT for development Crossing the digital divide: Lower cost connectivity ICT in education
UCT Centre in ICT for Development	ICT for human development in developing world	http://www.ict4d.cs.uct.ac.za/	Research		South Africa	Development Knowledge preservation Mobile and wireless rural communication Mobile finance
Information for Development Program (InfoDEV)	Women and ICT	www.abantu.org	Development	Abantu	Kenya	Gender and governance Gender and poverty Gender and conflict
International Telecommunications Union (ITU)	Global connectivity	http://www.itu.int/en/pages/default.aspx	Advocacy / Research		Kenya	Equal access Infrastructure Community connectivity
Gauteng Economic Development Agency (GEDA)	Economic Development in Gauteng	www.geda.co.za	Facilita-tor		South Africa	Sustainable economic growth
Information Technology Association of South Africa	Improvement of IT sector	www.ita.org.za	Develop-ment	Skills Development	South Africa	Skills development
One World Africa	Livelihood improvement	http://africa.oneworld.net	Research / Advocacy		Zambia	ICT and education Optic fibre network Lower connectivity costs Equal access
Palmer, R. 2010	ICT4D and the Siyakhula Living Lab: an anthropological contribution to digital development.	Anthropology Southern Africa, 2010, Vol. 33 Issue 1/2, p19-32.	Research	Living Lab	South Africa	Mobile technology for dev ICT as development tool
Singh, S. 2010	The South African 'Information Society', 1994-2008: Problems with Policy, Legislation, Rhetoric and Implementation	Journal of Southern African Studies, Mar2010, Vol. 36 Issue 1, p209-227, 19p	Research		South Africa	Political economy of information and communication technology Equitable growth
Rhodes, J. 2009	A Strategic Framework for Rural Micro-Enterprise Development: The Integration of Information Communication Technology (ICT),	Perspectives on Global Development & Technology, 2009, Vol. 8 Issue 1, p48-69, 22p	Research		South Africa	Rural socioeconomic development Self-help projects

	E-Commerce, Marketing, and Actor-Network Theory					
Osterwalder, A.	ICT in developing countries		Research	Women's Voices	Kenya	Citizen participation Rural development
EDUCATION						
Information for Development Program (InfoDev)	Survey of ICT and education in Africa		Research		South Africa/ Kenya/ Zambia	ICT education policies ICT education infrastructure ICT education activities
Telkom Schools	Promotes access to ICTs, content and training to South African schools	www.telkomfoundation.org	Capacity building		South Africa	
Council for Scientific and Industrial Research	Information and Communication	http://www.csir.co.za/index.html	Research	Meraka Institute	South Africa	Promotes the use of ICT for education and training, improved accessibility to information and services, low-cost connectivity
Digital Links	Refurbishes and deploys PCs to schools and conduct training	www.digitallinks.org		Digital Links South Africa	South Africa	
Learn Things	Produces interactive e-learning curriculum materials and offers training related to effective use of these materials.	www.learnthings.co.za		Learn Things Africa	South Africa	
Free Software and Open Source Foundation for Africa (FOSSFA)	Open source and software for African Development	http://www.fossfa.net/node/27	Research / Advocacy	FOSSFA	South Africa	African development Education
Peer to Peer Foundation	Creation of new public domain for research	http://blog.p2pfoundation.net	Research	Research	South Africa	Education Access to information Knowledge creation
University of Zambia Centre for ICT Consultancy and Training Centre	ICT Skills Development	http://www.unza.zm/index.php?option=com_content&task=view&id=533&Itemid=1	Research / Education	Centre for ICT	Zambia	Skills development Web application development Education
Blignaut, A. *et al.* 2010	ICT in education policy and practice in developing countries: South Africa and Chile compared through SITES 2006	Computers & Education 2010, Vol. 55 Issue 4, p1552-1563, 12p	Research		South Africa	

INFRASTRUCTURE/ ACCESS						
Research Africa.net	ICT access and usage indicators	www.researchictafrica.net/.../ria-policy-paper_ict-access-and-usage-2008.pdf	Research		South Africa Kenya Zambia	Growth of Internet and mobile penetration
Department of Communications of South Africa	ICT policies and legislation	www.doc.gov.za	Service provision	Universal Service and Access Agency of South Africa (USAASA)	South Africa	ICT infrastructure Universal service and access Cost reduction
Tlabela, K. *et al.* 2007	Mapping ICT access in South Africa	HSRC Press 2007	Research		South Africa	Infrastructure Access
MTN South Africa Foundation		http://www.mtn.co.za/MTNQ2/Pages/mtnq2.aspx	Service provider		South Africa	
Vodacom South Africa		www.vodacom.co.za	Service provider	Community Services Payphone	South Africa	Lower connectivity costs
Zain Service Provider	Service provider	http://www.ke.zain.com/opco/#?lang=en	Service provider		Kenya	
Safaricom Service Provider	Service provider	http://www.safaricom.co.ke/	Service provider	M-Pesa	Kenya	Mobile financing
Kenyaweb	Service provider and web consultancy	http://www.kenyaweb.com	Service provider		Kenya	
Kenya National ICT Policy Development	Equal access to ICT	http://www.idrc.ca/en/ev-50209-201-1-DOTOPIC.html	Research		Kenya	Education Skills development Access to communication and Internet services Open source information
Kenya Data Networks	ICT Infrastructure	http://www.kdn.co.ke/	Service provider		Kenya	Infrastructure Fibre Optic Network
World Wide Worx	Technology research and strategy	http://www.worldwideworx.com	Research		South Africa	Technology in business Cell phone trend analysis Online access
Linknet	ICT Infrastructure	http://link.net.zm/?q=node/2	Development		Zambia	Special interest groups Rural connectivity Education
Networked Systems for Developing Regions	Global Connectivity	http://www.dritte.org/nsdr10/	Research		Zambia	Livelihood enhancement Equal access Mobile connectivity
Zamtel	Service Provider	http://www.zamtel.zm	Service provider		Zambia	
Zambia Information and Communication Technology Authority (Zicta)	Internet Regulation	info@zicta.zm	Regulation		Zambia	Quality service Consumer safety

Appendix C

ICT and DEMOCRACY			
Institution/ Authors	Topic	Country	Sub-themes
e-Governance			
Bridges.org	Promote effective use of (ICT) in the developing world for meaningful purposes	South Africa	• Cell phones and handheld devices • Digital divide • E-Democracy • E-Government • E-Readiness assessment • Financing ICT-based development • Free and open source software • ICT policy • Millennium Development Goals • Public and equal access
Ayogu, M.D & Bayat, F. 2010	ICT governance: South Africa	South Africa	• Formal ICT governance structures • Policy oversight
State Information Technology Agency (Sita)	Consolidate and coordinate state information and technology resources	South Africa	• IT to support the delivery of e-Government services to all citizens • Facilitating access to all information about, and services provided by provision of specialised ICT skills to government
Citizen participation			
National Democratic Institute	Mobilisation of the internet for democracy	South Africa	• Promote citizen advocacy • Government transparency and accountability • Access to information and technology • Elections and political processes • Citizen participation
Institute for Democracy in Africa (Idasa)	Effective democracy	South Africa	• Citizen participation • Political governance • Elections and Electoral Systems
Lyons & Lyons 1999	Challenges posed by ICTs for parliamentary democracy in South Africa	South Africa	• Participatory democracy • Information dissemination
Goldenberg, D. 2008	Grassroots women's leadership and 'deepening democracy': the Huairou Commission's Local to Local Dialogue replication	Kenya	• Women and democracy • Rural development • Citizen participation
Kenya ICT Board	Development of information-based society	Kenya	• Improving government operations • Employment creation • Creation of network facilities in rural areas • Skill enhancement • Affordable access
Kenya ICT Action Network (Kictanet)	Reform in ICT sector	Kenya	• Improve livelihoods • Information accessibility and affordability • Effectiveness of ICT policy process • Facilitate effective dissemination channels regarding the ICT policy and regulatory processes
Kenya e-Government Strategy	e-Government	Kenya	• e-Government (modernisation of government structures and communications) • Citizen participation • Efficient governance
Democratic media context			
Independent Communications Authority of South Africa (Icasa)	Democratic use of media	South Africa	• Regulation of services • Affordable services of a high quality

Open Society Foundation for South Africa	Create sustainable media environment	South Africa	• Promotion of media freedoms, access to information and advocacy • Use of ICT to enhance the efficiency and efficacy of the media • Good governance • Public participation in governance • Access to information
Ministry of Information and Communication	Information and Communication Technology	Kenya	• Dissemination of Public Information, Development of National Communications Capacity
Rodwing R.M. & Shadrack, W.O. 2009	Kenya: the struggle for democracy	Kenya	
Mudhai. O.F. 2004	ICT**s** and the Civil Society as Challengers to the Ruling Elite in Africa	Zambia/ Kenya	• ICT and Democratisation • Balance of power

Appendix D

ICT and DEMOCRACY (Sorted according to approach to topic)			
Institution/Authors	Topic	Project	Country
Research			
Independent Communications Authority of South AfircaIcasa	Democratic use of media		South Africa
Goldenberg, D. 2008	Grassroots women's leadership and 'deepening democracy' : the Huairou Commission's Local to Local Dialogue replication		Kenya
Lyons & Lyons 1999	Challenges posed by ICTs for parliamentary democracy in South Africa		South Africa
Ayogu, M.D & Bayat, F. 2010	ICT governance: South Africa		South Africa
Rodwing R.M. & Shadrack, W.O. 2009	Kenya**:** the struggle for democracy		Kenya
Mudhai. O.F. 2004	ICT**s** and the Civil Society as Challengers to the Ruling Elite in Africa		Zambia/ Kenya
Advocacy			
State Information Technology Agency (Sita)	Consolidate and coordinate state information and technology resources	Batho Pele Gateway Specialised Skills	South Africa
Kenya ICT Board	Development of information-based society	Digital Villages Project	Kenya
Kenya ICT Action Network (Kictanet)	Reform in ICT sector		Kenya
Open Society Foundation for South Africa	Create sustainable media environment	Media Programme Human rights and governance programme	South Africa
Policy			
Bridges.org	Promote effective use of (ICT) in the developing world for meaningful purposes		South Africa
National Democratic Institute	Mobilisation of the internet for democracy	Project Vote	South Africa
Institute for Democracy in Africa (Idasa)	Effective democracy		South Africa
Ministry of Information and Communication	Information and Communication Technology		Kenya

Appendix E

ICT and DEVELOPMENT			
Institution/Authors	Topic	Country	Sub-themes
International Institute for Communication and Development (IICD)	ICT for Development	Zambia	• Knowledge sharing • Media and development • ICT in education
Women's Information for Development Network	Zambia ICT policy	Zambia	• Accelerated wealth • Job creation • Rural development
NEPAD e-Africa Commission	Development of ICT sector	South Africa	• Infrastructure development • ICT skills • Economic development • Global connectivity • Promoting conditions for Africa to be an equal and active participant in the Global Information Society
Meraka Institute	Development and globalisation focusing on human capital	South Africa	• ICT for development • Crossing the digital divide: Lower cost connectivity • ICT in education
UCT Centre in ICT for Development	ICT for human development in developing world	South Africa	• Development • Knowledge preservation • Mobile and wireless rural communication • Mobile finance
International Telecommunications Union	Global connectivity	Kenya	• Equal access • Infrastructure • Community connectivity
Gauteng Economic Development Agency (GEDA)	Economic Development in Gauteng	South Africa	• Sustainable economic growth
Information Technology Association of South Africa	Improvement of IT sector	South Africa	• Skills development
One World Africa	Livelihood improvement	Zambia	• ICT and education • Optic fibre network • Lower connectivity costs • Equal access
Palmer, R. 2010	ICT4D and the Siyakhula Living Lab: an anthropological contribution to digital development.	South Africa	• Mobile technology for development • ICT as development tool
Singh, S. 2010	The South African 'Information Society', 1994-2008: Problems with Policy, Legislation, Rhetoric and Implementation	South Africa	• Political economy of information and communication technology • Equitable growth
Rhodes, J.	A Strategic Framework for Rural Micro-Enterprise Development: The Integration of Information Communication Technology (ICT), E-Commerce, Marketing, and Actor-Network Theory	South Africa	• Rural socioeconomic development • Self-help projects
Information for Development Program (InfoDEV)	Women and ICT	Kenya	• Gender and governance • Gender and poverty • Gender and conflict

Appendix F

ICT and DEVELOPMENT (sorted according to approach to topic)			
Institution/Authors	Topic	Project	Country
Research			
UCT Centre in ICT for Development	ICT for human development in developing world		South Africa
One World Africa	Livelihood improvement		Zambia
Rhodes, J.	A Strategic Framework for Rural Micro-Enterprise Development: The Integration of Information Communication Technology (ICT), E-Commerce, Marketing, and Actor-Network Theory		South Africa
Singh, S. 2010	The South African 'Information Society', 1994-2008: Problems with Policy, Legislation, Rhetoric and Implementation		South Africa
Palmer, R. 2010	*ICT*4D and the Siyakhula Living Lab: an anthropological contribution to digital development.	Living Lab	South Africa
Osterwalder, A.	ICT in developing countries	Women's Voices	Kenya
International Telecommunications Union	Global connectivity		Kenya
Capacity Building			
International Institute for Communication and Development (IICD)	ICT for development	E-brain Information Dispatch Global Teenager Project Capacity Development	Zambia
Women's Information for Development Network	Zambia ICT policy		Zambia
Department of Transport and Communication	ICT4D Challenges and Opportunities for Zambia		Zambia
NEPAD e-Africa Commission	Development of ICT sector	Nepad e-schools Initiative Nepad ICT Broadband Infrastructure Network	South Africa
Meraka Institute	Development and globalisation focusing on human capital	Open Source Centre Scubuntu Wireless Africa	South Africa
Information for Development Program (InfoDEV)	Women and ICT	Abantu	Kenya
Gauteng Economic Development Agency (GEDA)	Economic Development in Gauteng		South Africa
Department of Transport and Communication	ICT4D Challenges and Opportunities for Zambia		Zambia
Information Technology Association of South Africa	Improvement of IT sector	Skills Development	South Africa

Appendix G

ICT INFRASTRUCTURE/ ACCESS			
Institution/Author	Topic	Country	Sub-themes
Research			
Research Africa.net	ICT access and usage indicators	South Africa Kenya Zambia	• Infrastructure • Mobile and fixed line access
World Wide Worx	Technology research and strategy	South Africa	• Technology in business • Cell phone trend analysis • Online access
Networked Systems for Developing Regions	Global Connectivity	Zambia	• Livelihood enhancement • Equal access • Mobile connectivity
Department of Communications of South Africa	ICT policies and legislation	South Africa	• ICT infrastructure • Universal service and access • Cost reduction
Kenya National ICT Policy Development	Equal access to ICT	Kenya	• Education • Skills development • Access to communication and internet services • Open source informaton
Services			
MTN South Africa Foundation		South Africa	
Vodacom		South Africa, Zambia	• Lower connectivity costs
Zain Service Provider	Service provider	Kenya	
Safaricom Service Provider	Service provider	Kenya	• Mobile financing
Kenyaweb	Service provider and web consultancy	Kenya	
Kenya Data Networks	ICT Infrastructure	Kenya	• Infrastructure • Fibre Optic Network
Linknet	ICT Infrastructure	Zambia	• Special interest groups • Rural connectivity • Education
Zamtel	Internet Service Provider	Zambia	
Airtel	Mobile Service Provider	Zambia	